



WATER SUPPLY MONITORING REPORT: FIRST QUARTER 2013

CTS OF ASHEVILLE, INC. SUPERFUND SITE

**235 Mills Gap Road
Asheville, Buncombe County, North Carolina
EPA ID: NCD003149556
CERCLA Docket No. CERCLA-04-2012-3762**

Prepared for:

**CTS Corporation
905 West Boulevard North
Elkhart, Indiana 46514**

Prepared by:

**AMEC Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806**

AMEC Project 6252-12-0006

March 6, 2013

March 6, 2013

Ms. Samantha Urquhart-Foster
Superfund Remedial and Site Evaluation Branch
U.S. Environmental Protection Agency
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8960
Urquhart-Foster.Samantha@epa.gov

Subject: Water Supply Monitoring Report: First Quarter 2013
CTS of Asheville, Inc. Superfund Site
235 Mills Gap Road, Asheville, Buncombe County, North Carolina
EPA ID: NCD003149556
CERCLA Docket No. CERCLA-04-2012-3762
AMEC Project 6252-12-0006

Dear Ms. Urquhart-Foster:

Please find attached the Water Supply Monitoring Report: First Quarter 2013 for the above-referenced Site. AMEC Environment & Infrastructure, Inc. prepared this Report on behalf of CTS Corporation pursuant to the requirement set forth in Section 3.1.6 of the Scope of Work contained in Appendix A of the Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study between the United States Environmental Protection Agency Region 4 and CTS Corporation (effective date of January 26, 2012).

If you have questions regarding this Water Supply Monitoring Report, please contact us at (828) 252-8130.

Sincerely,

AMEC Environment & Infrastructure, Inc.



Susan E. Kelly, P.E., L.G.
Senior Engineer

SEK/MEW:sek

cc: Elizabeth Ahlemann, CTS Corporation
Michael Dolan, Jones Day
Nile Testerman, NCDENR



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LIST OF ACRONYMS

AMEC	AMEC Environment & Infrastructure, Inc.
FDR	field data record
IRM	Interim Response Measure
MGRA	Mills Gap Road Associates
TCE	trichloroethene (also, trichloroethylene)
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

EXECUTIVE SUMMARY

AMEC Environment & Infrastructure, Inc., on behalf of CTS Corporation, conducted this first quarter 2013 water supply monitoring event for the CTS of Asheville, Inc. Superfund Site (Site). The monitoring activities were conducted pursuant to Section 3.1.6 of the Scope of Work contained in Appendix A of the Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study between the United States Environmental Protection Agency (USEPA) and CTS Corporation.

The USEPA has been collecting/analyzing water supply samples from identified wells/springs within an approximate one-mile radius of the Site on a quarterly basis since 2007. As of March 2012, the USEPA had conducted 13 sampling events. Trichloroethene and associated daughter products were identified in several of the sampled water supply wells and those homes have been connected to the municipal water supply. The objective of the water supply monitoring activities is to collect water supply samples to monitor potential target VOC contamination impacting the residential water supply sources within an approximate one-mile radius of the former plant at the Site. This Water Supply Monitoring Report describes the activities that were undertaken to monitor drinking water quality from water supply wells and springs located within a one-mile radius of the former plant at the Site.

The monitoring activities were conducted in accordance with the USEPA-approved Work Plan for Monitoring of Drinking Water Wells, Revision 1 (Work Plan) dated August 30, 2012. Water supply samples were collected from 21 locations during this quarterly sampling event. The laboratory analytical results of the submitted water samples indicate that the analyzed constituents were not detected above the associated method detection limits. Not considering the data gap related to a water sample not being collected at a well location where a sampling location (i.e., spigot, faucet, etc.) was unavailable at the time of sampling, the data collected for water supply monitoring is considered 100 percent complete and usable for meeting the objectives presented in the Work Plan.

1.0 INTRODUCTION

AMEC Environment & Infrastructure, Inc. (AMEC), on behalf of CTS Corporation, has prepared this Water Supply Monitoring Report: First Quarter 2013 (Report) for the CTS of Asheville, Inc. Superfund Site (Site). This Report describes work conducted in accordance with the Work Plan for Monitoring of Drinking Water Wells, Revision 1 (Work Plan), dated August 30, 2012, which was approved by the United States Environmental Protection Agency (USEPA) in a letter dated October 26, 2012. The water supply monitoring activities were conducted pursuant to Section 3.1.6 of the Scope of Work contained in Appendix A of the Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study (RI/FS) between the USEPA and CTS Corporation (effective date January 26, 2012). This Report describes the activities that were undertaken to monitor drinking water quality from water supply wells and springs located within a one-mile radius of the former plant at the Site.

1.1 SITE DESCRIPTION

The Site is approximately nine acres on Mills Gap Road in Asheville, Buncombe County, North Carolina, and the areal extent of the contamination. The approximate center of the Site is located at north latitude 35°29'36" and west longitude 82°30'25". The Site formerly contained an approximate 95,000-square foot, single-story brick and metal structure in the southern portion of the Site. The building was demolished in December 2011 and the concrete building pad remains intact. The Site is unoccupied.

1.2 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Environmental investigations have been conducted at the Site by several entities since 1987. The results of previous investigations have been described in other Site documents, and will be presented in the RI/FS Work Plan to be prepared for the Site. The results of previous investigations have identified volatile organic compounds (VOCs), primarily TCE, at the Site.

The USEPA has been collecting/analyzing water supply samples from identified wells/springs within an approximate one-mile radius of the Site on a quarterly basis since 2007. As of March 2012, the USEPA had conducted 13 water supply sampling events.

1.3 OBJECTIVE OF WATER SUPPLY MONITORING

The objective of the water supply monitoring activities is to collect water supply samples to monitor potential target VOC concentrations in residential water supply sources within an approximate one-mile radius of the former plant at the Site. Water supply samples will be collected on a quarterly basis from approximately one-quarter of the water supply sources; therefore, each water supply source will be sampled annually.

2.0 WATER SUPPLY MONITORING ACTIVITIES

The water supply monitoring activities were conducted in accordance with the USEPA-approved Work Plan. The Work Plan was developed to monitor potential target VOC concentrations in residential water supply sources within an approximate one-mile radius of the former plant at the Site. The collected water samples were analyzed for the target VOCs associated with the Site, and, as requested by the USEPA, the samples were also analyzed for toluene.

2.1 ASSIGNMENT OF SAMPLING LOCATIONS

Access agreements were sent by the USEPA to homes within a one-mile radius of the Site requesting access for AMEC and USEPA personnel to enter an owner's property for collection of water supply samples and/or to service a Respondent-installed Interim Response Measure (IRM) water filtration system. As of December 22, 2012, 97 completed/accepted access agreements had been received by USEPA. Nine of the locations contain an IRM filtration system where water is supplied by a shared well that is located on another property. In such instances, water supply samples (pre- and post-filtration system) will be collected from the "source" well property. At one location, the source well is located on a property that is currently vacant, and the adjacent property, which has an IRM filtration system installed in the residence, obtains water from the source well on the vacant property; in this instance, pre- and post-filtration system samples will be collected at the occupied residence with the IRM filtration system.

The remaining 87 locations were assigned to a quarterly sampling event (January, April, July, or October) using a random number generator procedure. The resulting sample assignment included 22 sampling locations for the first three quarters and 21 sampling locations for the fourth quarter. As additional access agreements are obtained, the water supply sample locations will be assigned sequentially to the next quarter, beginning with the fourth quarter.

2.2 SAMPLING ACTIVITIES

Sampling activities were conducted from January 14 through 18, 2013. A USEPA contractor representative accompanied AMEC during the sampling activities conducted on

January 14 through 17, 2013. There were 22 locations planned for the sampling event; however, a sample could not be obtained from one location (35 Chapel Hill Church Road) due to recent plumbing modifications at the wellhead, including removal of the wellhead spigot that was previously used by USEPA contractors for collection of water supply samples. This location will be sampled during the next quarterly sampling event, but will remain in the first quarter sampling group for subsequent years.

Where a water supply system has a Respondent-installed IRM filtration system, a water sample was collected pre-filter (at the wellhead or at a sample port 'upstream' of the filtration system) and post-filter (at an interior faucet, exterior spigot, or at a sample port 'downstream' of the filtration system). The well systems were purged for at least 15 minutes prior to sample collection. At residences with an IRM filtration system, the system was purged from a location downstream of the filtration system. At residences without an IRM filtration system, the water system was purged from a spigot on the wellhead. At approximate five-minute intervals during purging, water quality parameters (pH, temperature, conductivity, and turbidity) were measured and recorded on the Water Supply Well Sampling Record Field Data Record (FDR). Copies of the equipment calibration FDRs, sampling FDRs, and the logbook for the sampling activities are included in Appendix A. Photographs of the sampling activities are included in Appendix B. Table 1 contains a summary of the water supply samples collected and associated quality assurance/quality control samples submitted to the laboratory.

The water samples were packed in ice-chilled coolers and delivered under chain-of-custody protocol to the laboratory by AMEC personnel. The samples were delivered to Pace Analytical Services (Pace) in Asheville, North Carolina and couriered by laboratory personnel to Pace's laboratory in Huntersville, North Carolina for analysis.

2.3 ANALYSIS OF WATER SAMPLES

The water samples were submitted for analysis of the following target VOCs according to USEPA Method 8260:

- 1,1-dichloroethene
- cis-1,2-dichloroethene

- trans-1,2-dichloroethene
- tetrachloroethene
- 1,1,1-trichloroethane
- trichloroethene
- vinyl chloride
- toluene

3.0 ANALYTICAL RESULTS AND DATA USABILITY

The following sections describe the laboratory analytical results of the submitted water samples, as well as the results of data validation and data usability. The laboratory analytical reports are included as Appendix C.

The laboratory analytical results of the submitted water samples indicate that the analyzed constituents were not detected above the associated method detection limits.

3.1 DATA VALIDATION

Data validation was conducted based on procedures in the USEPA Region 4 Data Validation Standard Operating Procedures for Organic Analysis (USEPA, 2008). Full validation, including raw data verification and calculation checks, was completed on ten percent of the laboratory data.

The data validation report is included in Appendix D. The results of the data validation did not indicate the presence of quality control issues.

3.2 DATA USABILITY SUMMARY

The field investigation was conducted as proposed in the Work Plan, with the following discrepancies:

- Matrix spike and matrix spike duplicate samples (MS/MSD) were not identified on the chain-of-custody records; however, the laboratory used water samples that were included in the sample delivery group to conduct the MS/MSD evaluation.
- The turbidity calibration solutions received from the company supplying the rental equipment were expired; however, turbidity measurements were used to determine the adequacy of purging and do not affect the laboratory analytical results.

The field investigation was conducted as proposed in the Work Plan, with the following data gap:

- A water supply sample was not collected from the 35 Chapel Hill Church Road location.

Data quality issues were not identified during the data validation process. The identified data gap was out of the control of AMEC, the Respondent, or USEPA (i.e., the sampling location had been modified by the property owner, and the condition was unknown prior to sampling activities), and the data gap will be addressed during the next quarterly monitoring event. The data set is considered to be 100 percent complete with respect to the collected data. Therefore, the data is usable for completing the objectives set forth in the Work Plan.

4.0 DISCUSSION AND CONCLUSIONS

The water supply monitoring activities were conducted in accordance with the USEPA-approved Work Plan. Concentrations of analyzed constituents were not detected above the laboratory method detection limits.

The next monitoring event will be conducted in April 2013. A sample will be collected from the 35 Chapel Hill Church Road location, which was not accessible during this monitoring event.

TABLE

TABLE 1
Water Supply Sample Summary
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-12-0006

Address	Station ID	Sample ID	Date	Sample Location	Associated QA/QC Samples
5 Forest Run Drive	MGPW091	PW-091A-01	1/14/2013	spigot on wellhead	TB-01-01
5 Forest Run Drive	MGPW091	PW-091B-01	1/14/2013	sample port on IRM system	TB-01-01
5 Helton Drive	MGPW151	PW-151A-01	1/14/2013	spigot on wellhead	TB-01-01 FD-01-01
5 Helton Drive	MGPW151	PW-151B-01	1/14/2013	sample port on IRM system	TB-01-01
11 Forest Run Drive	MGPW026	PW-026A-01	1/15/2013	sample port on IRM system	TB-01-01
11 Forest Run Drive	MGPW026	PW-026B-01	1/15/2013	spigot on house	TB-01-01
12 Bethel Drive	MGPW156	PW-156A-01	1/15/2013	spigot on wellhead	TB-01-01
12 Bethel Drive	MGPW156	PW-156B-01	1/15/2013	kitchen sink	TB-01-01
114 Russet Lane	MGPW014	PW-014A-01	1/15/2013	spigot on wellhead	TB-01-01
114 Russet Lane	MGPW014	PW-014B-01	1/15/2013	sample port on IRM system	TB-01-01
30 Moriah Lane	MGPW143	PW-143A-01	1/15/2013	spigot on wellhead	TB-01-01
30 Moriah Lane	MGPW143	PW-143B-01	1/15/2013	spigot on house	TB-01-01
28 Moriah Lane	MGPW063	PW-063A-01	1/15/2013	spigot on wellhead	TB-01-01 FD-02-01
28 Moriah Lane	MGPW063	PW-063B-01	1/15/2013	spigot on house	TB-01-01
536 School Road	MGPW133	PW-133-01	1/15/2013	spigot on house	TB-01-01
83 Hemlock Street	MGPW149	PW-149A-01	1/16/2013	spigot on wellhead	TB-02-01
83 Hemlock Street	MGPW149	PW-149B-01	1/16/2013	spigot on house	TB-02-01
23 Ralph's Lane	MGPW103	PW-103A-01	1/16/2013	spigot on wellhead	TB-02-01
23 Ralph's Lane	MGPW103	PW-103B-01	1/16/2013	spigot on house	TB-02-01
655 School Road	MGPW157	PW-157A-01	1/16/2013	spigot on wellhead	TB-02-01
655 School Road	MGPW157	PW-157B-01	1/16/2013	spigot on house	TB-02-01
16 Wineberry Lane	MGPW101	PW-101A-01	1/16/2013	spigot on pressure tank	TB-02-01 FD-03-01
16 Wineberry Lane	MGPW101	PW-101B-01	1/16/2013	sample port on IRM system	TB-02-01
624 School Road	MGPW058	PW-058A-01	1/16/2013	spigot on wellhead	TB-02-01
624 School Road	MGPW058	PW-058B-01	1/16/2013	spigot on house	TB-02-01
619 School Road	MGPW060	PW-060A-01	1/16/2013	spigot on wellhead	TB-02-01
619 School Road	MGPW060	PW-060B-01	1/16/2013	spigot on house	TB-02-01
19 Chipping Green Drive	MGPW039	PW-039A-01	1/16/2013	spigot on wellhead	TB-02-01
19 Chipping Green Drive	MGPW039	PW-039B-01	1/16/2013	sample port on IRM system	TB-02-01
2 Forest Run Drive	MGPW146	PW-146A-01	1/17/2013	sample port on IRM system	TB-03-01
2 Forest Run Drive	MGPW146	PW-146B-01	1/17/2013	spigot on house	TB-03-01
117 Russet Lane	MGPW046	PW-046-01	1/17/2013	spigot on wellhead	TB-03-01
35 Walsh Trace Drive	MGPW047	PW-047A-01	1/17/2013	spigot on wellhead	TB-03-01
35 Walsh Trace Drive	MGPW047	PW-047B-01	1/17/2013	spigot on house	TB-03-01
901 Weston Road	MGPW132	PW-132-01	1/18/2013	spigot on wellhead	TB-04-01
21 Ralph's Lane	MGPW121	PW-121A-01	1/18/2013	spigot on wellhead	TB-04-01
21 Ralph's Lane	MGPW121	PW-121B-01	1/18/2013	kitchen sink	TB-04-01
33 Deseret Drive	MGPW136	PW-136A-01	1/18/2013	sample port on IRM system	TB-04-01
33 Deseret Drive	MGPW136	PW-136B-01	1/18/2013	sample port on IRM system	TB-04-01

Notes:

1. Station IDs provided by USEPA.
2. IRM - Interim Response Measure (Respondent-installed filtration system).
3. Samples denoted with "A" collected before the IRM system and samples denoted with "B" collected after the IRM system.
4. Samples without an "A" or "B" were collected from wells that do not have an IRM system installed.

Prepared By: LRG 1/22/13

Checked By: SEK 1/22/13

FIGURES



Sampling Quarter Key

- First Quarter
- Second Quarter
- Third Quarter
- Fourth Quarter

Locations included in quarterly monitoring updated 1/28/13.



REFERENCE: Parcels from Buncombe County GIS.

QUARTERLY DRINKING WATER WELL LOCATION MAP
CTS OF ASHEVILLE, INC. SUPERFUND SITE
ASHEVILLE, NORTH CAROLINA

DRAWN: SEK	DATE: MARCH 2013
DFT CHECK: MEW	SCALE: NOT TO SCALE
ENG CHECK: --	PROJ: 6252-12-0006
APPROVAL: MEW	FIGURE: 1



LEGEND

Well Sampled in January 2013



DRINKING WATER WELLS SAMPLED IN JANUARY 2013
CTS OF ASHEVILLE, INC. SUPERFUND SITE
ASHEVILLE, NORTH CAROLINA

REFERENCE: Parcels from Buncombe County GIS.

DRAWN: SEK	DATE: MARCH 2013
DFT CHECK: MEW	SCALE: NOT TO SCALE
ENG CHECK: --	PROJ: 6252-12-0006
APPROVAL: MEW	FIGURE: 2

APPENDIX A

LOGBOOK AND FIELD DATA RECORDS

CONTENTS

Location CTS of Asheville Date 1/14/13
Project / Client Water Supply Monitoring - Q1
025212.0006 S. Kelly / AMEC Page 1 of 3

215 - arrive at Earthfare, Ryan Stubb's OTIE

- Weather today expected to be ~~is~~
light to heavy rain, mid 50's. Future

1255 - S. Kelly & Jason Avritt (AMEC)

~~Leave E. fare~~

- purchase ice
- drive to 5 Forest Run Drive

1305 - arrive at 5 Forest Park Drive
station ID M6DWQ91

-collect samples PW-091A-01 (1340)
and PW-091B-01 (13:45)

see FDR
1355 - leave 15 Forest Run drive

-to 19 Chipping Green Drive
Station ID mgpw039

- resident is not home to give access to garage for

14:10 - to 35 Chapel Hill church Road
(Station 11) MGPW 087)

- EPA for 140 historically
sampled from spigot at wellhead
however homeowner has modified
wellhead and there is no longer

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Location CTS of Asheville Date 11/14/13

Project / Client Water Supply Monitoring - Q1

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a spigot at the wellhead.

- identify a spigot on the house
at 33 Chapel Hill Church Road
which shares the well located
at 35 Chapel Hill Church Road

1450 - collect sample PW-087-01 at

spigot on house of 33 Chapel
Hill church road (see FDR)

1455 - leave 33/35 Chapel Hill church
Road

- to 5 Helton Drive (Station ID MGDW15)

collect Sample PW-151A-01 (15:30)
and PW-151B-01 (1535) and

1550 FD-01 (with PW-151A-01); see FDR

1455^{11/13} - leave 5 Helton Drive; R. Stubbs leaves

- conduct IRM inspection (see

IRM Implementation Log book)

1630 - complete IRM inspection

- meet with Samantha

^(CEPA)
Urquhart-Foster and discuss
sample collected at 33/35 Chapel
Hill Church Road

- S.V.-Foster recalls that there is
a filtration system (owner-installed)

11/14/13

Location CTS of Asheville Date 11/14/13

Project / Client Water Supply Monitoring - Q1

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at the home of 33 Chapel Hill Church Rd

- S.V.-Foster contacts homeowner
of 35 Chapel Hill Church Road and
homeowner indicates they
recently removed the spigot
from the well head and confirmed

confirmed filtration system

at 33 Chapel Hill Church Road;

homeowner will re-plumb

a "yard spigot" that we can

sample from; homeowner will

call S.V.-Foster to indicate when

this has been completed so

that we can go collect a

non-filtered sample from

- yard spigot.

1645 - calibration verification

check conducted:

Turbidity:

< 0.1 NTU → 0.61 NTU 4 → 3.98 SU

20 NTU → 24 NTU 7 → 7.04 SU

100 NTU → 115 NTU 10 → 10.14 SU

conductivity 1.41 mS/cm → 1.423 mS/cm

- S.Kelly & J. Avril leave for the day

S. Mankeeg 11/14/13

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Location CTS of Asheville Date 1/15/13

Project / Client water supply monitoring -Q1
6252120006 S.kelly (AMFC) page 1 of 4

7:30 S.kelly /AMFC and J.Avritt travel to site

- water quality meter and turbidity meter were calibrated before leaving (See calibration FDR)
- weather today: Rain, upper 40's (F)
- purchase ice for sample preservation

815 - arrive at 11 Forest Run Drive (station ID MGPW026)

- Ryan Stubbs (OTIE, contractor for EPA) is waiting for us at residence
- collect sample PW-026A-01 (8:40) and PW-026B-01 (8:45); see FDR
- R.Stubbs checks well head for spigot → no spigot at well head

850 - leave 11 Forest Run Drive

- to 12 Bethel Drive (well has not previously been sampled by EPA)
- exterior spigots have been winterized and IRM ~~is~~ ^{and} riser is in basement ^{so} there is no where to discharge the purged water
- purge at kitchen sink
- collect samples PW-156A-01 (9:15)

Location CTS of Asheville Date 1/15/13

Project / Client water supply monitoring -Q1
6252120006 S.kelly /AMFC page 2 of 4

and PW-156B-01 (9:20); see FDR

- pre-system sample collected from spigot at well head

925 - leave 12 Bethel Drive

- to 114 Russet Lane (station ID MGPW014)
- purge from post-system (1RM) sample port; pre-system sample collected from spigot at well head
- collect sample PW-014A-01 (9:55) and PW-014B-01 (10:00); see FDR

1005 - leave 114 Russet Lane

- to Earthfare to meet EPA and conduct 1RM design inspections (See 1RM Implementation Log book)

1325 - to 30 Moriah Lane (station ID MGPW143)

- purge / sample (post-1RM system) at exterior or spigot; pre-sample from spigot at well head
- collect Sample ~~143~~ 1/15/13 PW-143A-01 (14:00) and PW-143B-01 (14:05); see FDR

1410 - leave 30 Moriah Lane

- to 28 Moriah Lane (station ID MGPW063)

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Location CTS of Asheville Date 1/15/13
 Project / Client Water Supply Monitoring
 6252120006 S.Kelly/AMEC page 3 of 4

- purge/samples at post-PRM system exterior spigot; collect pre-system sample at wellhead spigot.
 - collect sample PW-063A-01 (14:35) and PW-063B (14:40)
 - also collect PW-02-01 (with PW-063A-01)
- 1455 - to store to purchase additional ice for cooler
- 1510 - to 901 Weston Road
- 1515 - at 901 Weston Road (station ID MGPW132)
- begin to purge well but soon well stops pumping; it is apparent that well has been turned off by homeowner
 - will contact EPA so they can contact homeowner about sampling well
- 1525 - leave 901 Weston Road
- to 536 School Road (station ID MGPW133)
 - collect sample (and purge) from spigot on house (where EPA previously sampled)

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Location CTS of Asheville Date 1/15/13
 Project / Client Water Supply Monitoring
 6252120006 S.Kelly/AMEC page 4 of 4

- collect sample PW-133-01 (15:55)
- 1600 - leave 536 School Road
- to laboratory to drop off cooler of samples
 - pack cooler as specified in QAPD
- 1650 - arrive at lab (Pace Analytical) and sign over chain-of-custody to lab custodian
- lab personnel will courier cooler to Charlotte Pace lab for analysis.
- 1700 - S.Kelly and J.Avritt leave lab
- finished for the day

~~Planned~~ 1/15/13

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Location CTS of Asheville Date 1/16/13

Project / Client Water Supply Monitoring - Q1
 6252120006 S. Kelly / AMEC 1/16/13
 page 1 of 3

7:30 S. Kelly / AMEC and J. Avritt / AMEC travel to site.

- water quality meter and turbidity meter were calibrated before leaving (see calibration FDR)

- weather today: rain, mid-50s (F)

8:00 - arrive at 83 Hemlock Street

- collect sample PW-149A-01 (8:35) and PW-149B-01 (8:40); see FDR

855 - leave 83 Hemlock Street

- talk to lab Project Manager - he indicated there was a sample in the cooler that was not on the COC; this is the sample collected at 33 Chapel Hill Church Road.

I directed lab to dispose of this sample as it should not be analyzed until 1/16/13 as discussed with AMEC Pm and Samantha Urquhart-Foster EPA

m6pw103)

910 - arrive at 23 Ralph's Lane (station

- collect sample PW-103A-01 (9:35) and PW-103B-01 (9:40); see FDR

945 - leave 23 Ralph's Lane

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Location CTS of Asheville Date 1/16/13

Project / Client Water Supply monitoring - Q1
 6252120006 S. Kelly / AMEC Page 2 of 3

945 - to 655 School Road (station ① m6pw157)

- collect sample PW-157A-01 (10:20) and PW-157B-01 (10:25); see FDR

1030 - to 655 School Road

- to store to purchase ice (m6pw101)

1055 - to 16 Wineberry Lane (station ①)

- collect sample PW-101A-01 (11:35) and PW-101B-01 (11:40)

- also collect FD-03-01 with PW-101A-01

1150 - leave 16 Wineberry Lane

- take lunch

1300 - to 624 School Road (station m6pw058)

- collect sample PW-058A-01 (13:40)

and PW-058B-01 (13:45)

1330 - leave 624 School Road

(m6pw058) - to gas station for bathroom break

1410 - to 619 School Road (Station m6pw060)

- collect sample PW-060A-01 (14:35)

and PW-060B-01 (14:30)

1435 - leave 619 School Road

- to 19 Chipping Green Drive

1445 - at 19 Chipping Green Drive (station m6pw039)

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Location CTS of Ashville Date 1/16/13
 Project / Client Water Supply monitoring -Q1
 6252120006 S.Kelly/AMFC page 3 of 3

1515 - homeowner returns home

- begin to purge / sample
- collect sample PW-039A-01 (15:50)
and PW-039B-01 (15:55); see FDR

1600 - leave 19 Chipping Green Drive

- stop at a park on the way to
the lab and pack cooler
- to lab (Pace)

1635 - arrive at lab and sign over

- chain-of-custody to lab custodian
- lab personnel will courier cooler /
samples to Charlotte Pace lab
for analysis

1645 - S.Kelly and J.Auritt leave lab

- finished for the day

M. Kelly
1/16/13

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Location CTS of Ashville Date 1/17/13
 Project / Client Water Supply monitoring -Q1
 6252120006 S.Kelly/AMFC page 1 of 2

730 - S.Kelly and J.Auritt driving
to site

- purchase ice at store

800 - arrive at 2 Forest Run Drive

- Ryan Stubbs (CSTE, contractor for
EPA) is at residence

- calibrate water quality meter
and turbidity meter (see
calibration FDR)

930 - begin to purge from spigot
on house

- collect samples PW-146A-01 (9:45)
and PW-146B-01 (9:50)
See FDR

955 - leave 2 Forest Run Drive

- to 117 Russet Lane Station (monitored)

- purge / sample from spigot
at wellhead (no Rm system)
at this location

- homeowner indicated that
there is an iron bacteria
problem and that she had a
treatment system installed;
one component injects chlorine

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Location CTS of Asheville Date 1/17/13
 Project / Client Water Supply Monitoring -Q1
 6252120006 S.kelly/AMEC page 2 of 2

- into the well at the wellhead
 - chlorine odor noted in purge water
 - collect sample PW-046-01 (10:25)
- 10:35 - leave 117 Russet Lane
 - to store to break until next appointment; R.Stubbs leaves for day
- 10:55 - to 35 Walsh Trace Drive (station MSPW047)
 - collect Sample PW-047A-01 (11:20)
 and PW-047B-01 (11:25)
- 11:30 - leave 35 Walsh Trace Drive
 - take lunch
- 12:30 - to lab to drop off cooler/samples
 - stop at park on way to lab to pack cooler
- 13:00 - arrive at lab and sign over chain of custody to lab custodian
 - lab personnel will courier cooler/samples to Pace lab in Charlotte for analysis
- 13:10 - S.kelly and J.Arritt leave lab
 - finished for the day

S. Kelly

15

Location CTS of Asheville Date 1/18/13
 Project / Client Water Supply Monitoring -Q1
 6252120006 S.kelly/AMEC page 1 of 2

- 14:10 - S.kelly/AMEC and J.Arritt/AMEC driving to site
- water quality meter and turbidity calibrated at office (see calibration FDR)
 - weather today: sunny, mid-40s (F)
 - purchase ice at store en route to site
- 14:35 - arrive at 901 Weston Road
 (station ID ^{SD 1/18/13} MSPW132)
 - purge sample from wellhead spigot; pump turned off when pumping at high flow rate, so purge at lower flow rate with spigot on house open as well
 - collect sample PW-132-01 (14:55); see FDR
- 15:00 - leave 901 Weston Road
 - to 21 Ralph's Lane (station MSPW121)
 - collect Sample PW-121A-01 (15:25)
 and PW-121B-01 (15:30); see FDR
- 15:40 - leave 21 Ralph's Lane
 - to 33 Deseret Drive (station MSPW136)
 - collect sample PW-136A-01 (16:05)

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Location CTTS of Asheville Date 1/18/13

Project / Client Water Supply Monitoring - Q1

b25212000xp S.kelly /AMER page 2 of 2

and PW-136B-01 (16-10); see FDR

- Pack cooler

1615 - leave 33 Deseret Drive

- drive to lab (Pace)

1655 - arrive at lab

- sign over chain-of-custody to
lab ausodian

- lab personnel will carrier cooler/
Samples to Pace Charlotte Lab
for analysis

1700 - S.kelly and J.Auritt leave lab

- to FedEx to ship water quality
meter and turbidity meter

1715 - leave FedEx

- finished for the day

D. Dan Kelly
1/18/13

17

Location _____ Date _____

Project / Client _____

FIELD INSTRUMENT CALIBRATION RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Date: 7/14/13

Project Number: 6252-12-0006.0004 (Water Supply Monitoring - Q1)

Name: Skelly

Water Quality Meter Calibration		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	YSI	pH: 7.00 SU	pH: 3.98/7.00/10.10 SU	+/- 10% of standard
Model No.:	603	Conductivity: 1,413 mS/cm	Conductivity: 1,413 mS/cm	+/- 10% of standard
Unit ID:	8938	Redox: — +/- mV	Redox: — +/- mV	see note 1
		DO: — mg/L *	DO: — mg/L	+/- 10% of standard
		Thermometer Temperature: — °C	Temperature: — °C	+/- 2.0 °C

Turbidity Meter Calibration		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	Hach	0.4* → <0.1 NTU (low)	0.5 NTU	+/- 10% of standard
Model No.:	2100P	2.0 NTU (med)	21.3 NTU	+/- 10% of standard
Unit ID:	03057	100 NTU (high)	97.4 NTU	+/- 10% of standard

Photoionization Detector				Acceptance Criteria
Manufacturer:		Background:	ppmv	Meter: ppmv within 5 ppmv of Zero
Model No.:		Span Gas:	ppmv	Meter: ppmv +/- 10% of standard
Unit ID:				

Calibration Sources

	Source	Value	Lot Number	Expiration Date
pH	Pine (Hanna)	4 SU	4347	4/17
Conductivity	Pine	1,413 mS/cm	2AE883	5/31/12-13
Redox:		mV		
Turbidity (low)	Hach (formazin)	<0.1 NTU	A1061	3/12
Turbidity (med):	Hach (formazin)	20 NTU	A1140	5/12
Turbidity (high):	Hach (formazin)	100 NTU	0298	10/11
PIG gas: pH	Pine (Hanna)	7 ppmv	9736	6/5/13
Other: pH	Pine (Hanna)	10 SU	9912	9/19/13

NOTES:

*meter calibrates to 0.4 NTU but calibration solution indicates <0.1

* = Indicate in notes section what was used as the DO standard (i.e., based on saturation at room temperature)

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

1 = meter must read within specified range of the Zobell solution (usually 231 +/- 10 mv).

FIELD INSTRUMENT CALIBRATION RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Date: 1/15/13

Project Number: 6252-12-0006.0004 (Water Supply Monitoring - Q1)

Name: S. Kelly

Water Quality Meter Calibration	Standard Value	Meter Value	Acceptance Criteria
Manufacturer: VS1	pH: 4.7/10 SU	pH: 3.98/7.00 / 10.10 SU	+/- 10% of standard
Model No.: 63	Conductivity: 1.413 mS/cm	Conductivity: 1.413 mS/cm	+/- 10% of standard
Unit ID: 8938	Redox: — +/- mV	Redox: — +/- mV	see note 1
	DO: — mg/L *	DO: — mg/L	+/- 10% of standard
	Thermometer Temperature: — °C	Temperature: — °C	+/- 2.0 °C

Turbidity Meter Calibration	Standard Value	Meter Value	Acceptance Criteria
Manufacturer: Hach	0.4 NTU (low) *	0.50 NTU	+/- 10% of standard
Model No.: 2100P	20 NTU (med)	20.7 NTU	+/- 10% of standard
Unit ID: 03057	100 NTU (high)	99.0 NTU	+/- 10% of standard

Photoionization Detector	Background:	ppmv	Meter:	ppmv	within 5 ppmv of Zero	Acceptance Criteria
Manufacturer:						
Model No.:	Span Gas:	ppmv	Meter:	ppmv	+/- 10% of standard	
Unit ID:						

Calibration Sources

	Source	Value	Lot Number	Expiration Date
pH	Pine (Hanna)	4 SU	4347	4/17
Conductivity	Pine	1.413 mS/cm	2AE883	5/31/13
Redox:		mV		
Turbidity (low)	Hach (Formazin)	<0.1 NTU	A1061	3/12
Turbidity (med):	Hach (Formazin)	20 NTU	A1110	5/12
Turbidity (high):	Hach (Formation)	100 NTU	0298	10/11
PID-gas pH	Pine (Hanna)	7 ppmv	9736	6/15/13
Other:	Pine (Hanna)	10 SU	9912	9/19/13

NOTES:

*meter calibrates to 0.4 NTU but calibration solution says <0.1 SK 1/15/13

* = Indicate in notes section what was used as the DO standard (i.e., based on saturation at room temperature)

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

1 = meter must read within specified range of the Zobell solution (usually 231 +/- 10 mv).

FIELD INSTRUMENT CALIBRATION RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Date: 1/16/13

Project Number: 6252-12-0006.0004 (Water Supply Monitoring - Q1)

Name: S. Kelly

Water Quality Meter Calibration	Standard Value	Meter Value	Acceptance Criteria
Manufacturer: YSI	pH: 7.00 SU	pH: 7.04/10.11 SU	+/- 10% of standard
Model No.: 63	Conductivity: 1.413 mS/cm	Conductivity: 1.410 mS/cm	+/- 10% of standard
Unit ID: 8938	Redox: — +/- mV	Redox: — +/- mV	see note 1
	DO: — mg/L *	DO: — mg/L	+/- 10% of standard
	Thermometer Temperature: — °C	Temperature: — °C	+/- 2.0 °C

Turbidity Meter Calibration	Standard Value	Meter Value	Acceptance Criteria
Manufacturer: Hach	0.4 NTU (low) **	0.52 NTU	+/- 10% of standard
Model No.: 2100P	20 NTU (med)	21.0 NTU	+/- 10% of standard
Unit ID: 03057	100 NTU (high)	99.5 NTU	+/- 10% of standard

Photoionization Detector	Background:	ppmv	Meter:	ppmv	Acceptance Criteria
Manufacturer: _____	Background: _____	ppmv	Meter: _____	ppmv	within 5 ppmv of Zero
Model No: _____	Span Gas: _____	ppmv	Meter: _____	ppmv	+/- 10% of standard
Unit ID: _____					

Calibration Sources

	Source	Value	Lot Number	Expiration Date
pH	Pine (Hanna)	7 SU	4347	4/17
Conductivity	Pine	1.113 mS/cm	2AE883	5/31/13
Redox:		mV		
Turbidity (low)	Hach (Formazin)	<0.1 NTU	A1D61	3/12
Turbidity (med):	Hach (Formazin)	20 NTU	A1140	5/12
Turbidity (high):	Hach (Formazin)	100 NTU	0298	10/11
pH-gas: pH	Pine (Hanna)	7 ppmv	9736	4/15/13
Other: pH	Pine (Hanna)	10 SU	9912	9/19/13

NOTES:

*meter calibrates to 0.4 NTU but calibration solution indicates <0.1

* = Indicate in notes section what was used as the DO standard (i.e., based on saturation at room temperature)

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

1 = meter must read within specified range of the Zobell solution (usually 231 +/- 10 mv).

FIELD INSTRUMENT CALIBRATION RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Date: 1/17/13

Project Number: 6252-12-0006.0004 (Water Supply Monitoring - Q1)

Name: S. Kelly

Water Quality Meter Calibration	Standard Value	Meter Value	Acceptance Criteria
Manufacturer: YSI	pH: 4/17/10 SU	pH: 103/7.16/10.22 SU	+/- 10% of standard
Model No.: 63	Conductivity: 1.413 mS/cm	Conductivity: 1.416 mS/cm	+/- 10% of standard
Unit ID: B938	Redox: — +/- mV	Redox: — +/- mV	see note 1
	DO: — mg/L *	DO: — mg/L	+/- 10% of standard
	Thermometer Temperature: — C°	Temperature: — C°	+/- 2.0 C°

Turbidity Meter Calibration	Standard Value	Meter Value	Acceptance Criteria
Manufacturer: Hach	0.4 NTU (low) *	0.49 NTU	+/- 10% of standard
Model No.: 2100P	20 NTU (med)	19.8 NTU	+/- 10% of standard
Unit ID: 03057	100 NTU (high)	99.5 NTU	+/- 10% of standard

Photoionization Detector	Background:	ppmv	Meter:	ppmv	Acceptance Criteria
Manufacturer:					within 5 ppmv of Zero
Model No.:	Span Gas:	ppmv	Meter:	ppmv	+/- 10% of standard
Unit ID:					

Calibration Sources

	Source	Value	Lot Number	Expiration Date
pH	Pine (Hanna)	4 SU	2AC547	3/14
Conductivity	Pine	1.413 mS/cm	2AE883	5/31/13
Redox:		mV		
Turbidity (low)	Hach (Formazin)	50.1 NTU	A1061	3/12
Turbidity (med):	Hach (Formazin)	20 NTU	A1140	5/12
Turbidity (high):	Hach (Formazin)	100 NTU	0298	10/11
RID gas: pH	Pine	7 ppmv	2AE340	5/14
Other: pH	Pine	10 SU	2AE261	5/14

NOTES:

Meter calibrates to 0.4 NTU but calibration solution indicates <0.1.

* = Indicate in notes section what was used as the DO standard (i.e., based on saturation at room temperature)

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

1 = meter must read within specified range of the Zobell solution (usually 231 +/- 10 mv).

FIELD INSTRUMENT CALIBRATION RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Date: 1/18/13

Project Number: 6252-12-0006.0004 (Water Supply Monitoring - Q1)

Name: S. Kelly

Water Quality Meter Calibration		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	YSI	pH: 4/7/10 SU	pH: 4.00/7.04/10.13 SU	+/- 10% of standard
Model No.:	63	Conductivity: 1.413 mS/cm	Conductivity: 1.412 mS/cm	+/- 10% of standard
Unit ID:	8938	Redox: — +/- mV	Redox: — +/- mV	see note 1
		DO: — mg/L *	DO: — mg/L	+/- 10% of standard
		Thermometer Temperature: — C°	Temperature: — C°	+/- 2.0 C°

Turbidity Meter Calibration		Standard Value	Meter Value	Acceptance Criteria
Manufacturer:	Hach	0.4 NTU (low) *	0.52 NTU	+/- 10% of standard
Model No.:	2100P	20 NTU (med)	21.6 NTU	+/- 10% of standard
Unit ID:	03057	100 NTU (high)	104 NTU	+/- 10% of standard

Photoionization Detector				Acceptance Criteria
Manufacturer:		Background:	ppmv	Meter: ppmv within 5 ppmv of Zero
Model No.:		Span Gas:	ppmv	Meter: ppmv +/10% of standard
Unit ID:				

Calibration Sources

	Source	Value	Lot Number	Expiration Date
pH	Pine	4 SU	2AC.547	3/14
Conductivity	Pine	1.413 mS/cm	2AE.883	5/31/13
Redox:		mV		
Turbidity (low)	Hach (Formazin)	<0.1 NTU	A1061	3/12
Turbidity (med):	Hach (Formazin)	20 NTU	A1140	5/12
Turbidity (high):	Hach (Formazin)	100 NTU	0298	10/11
PID-gas: pH	Pine	7 ppmv	2AE.340	5/14
Other: pH	Pine	10 SU	2AE.2101	5/14

NOTES:

*meter calibrates to 0.4 NTU but calibration solution indicates <0.1

* = Indicate in notes section what was used as the DO standard (i.e., based on saturation at room temperature)

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available.. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the parameter was not calibrated to the acceptance criteria.

1 = meter must read within specified range of the Zobell solution (usually 231 +/- 10 mv).

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.Kelly & J.Avrill

Well Address: 5 Forest Run Drive Station ID: M6PW091

Pre-filter Sample: PW-091A-D1 Sample Date/Time: 1/14/13 13:40

Post-filter Sample: PW-091B-D1 Sample Date/Time: 1/14/13 13:45

Purge Start Time: 13:21 Purge Stop Time: 13:40

QA/QC Sample(s): T13-01-D1 Volume Purged: 143 gallons (approximate)
(mS/cm) 1/14/13

Time	pH	Temperature (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Comments
initial	6.44	14.7	178.9	2	
13:24	6.53	13.8	168.9	1	
13:27	6.40	14.0	168.8	1	
13:31	6.41	14.4	167.5	1	
13:36	6.50	14.5	167.3	0	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~7.5 gpm
- purge/sample from post-IRM system sample port
- pre-IRM system sample collected from spigot at wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 5 Heaton Drive Station ID: MGPW151

Pre-filter Sample: PW-151A-01 Sample Date/Time: 1/14/13 15:30

Post-filter Sample: PW-151B-01 Sample Date/Time: 1/14/13 15:35

Purge Start Time: 15:12 Purge Stop Time: 15:30

QA/QC Sample(s): TB-01-01 Volume Purged: 144 gallons (approximate)
FD-01-01 (PW-151A-01) (ML/cm³)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~8gpm
- purge / sample from post-IPM system sample port
- pre-IPM system sample collected from spigot at wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 11 Forest Run Drive Station ID: MGPW026

Pre-filter Sample: PW-026A-01 Sample Date/Time: 1/15/13 8:40

Post-filter Sample: PW-024B-D1 Sample Date/Time: 1/15/13 8:45

Purge Start Time: 8:22 Purge Stop Time: 8:39

QA/QC Sample(s): TB-01-01 Volume Purged: 85 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~5 gpm * no spigot at wellhead
- purge/sample at exterior spigot on house
- pre-1PM system sample collected from 1PM sample port

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.Kelly & J.Auritt

Well Address: 12 Bethel Drive Station ID: MGPW156

Pre-filter Sample: DW-156-A-01 Sample Date/Time: 1/15/13 9:15

Post-filter Sample: PW-156B-D1 Sample Date/Time: Y15/13 9:20

Purge Start Time: 8:59 Purge Stop Time: 9:15

QA/QC Sample(s): TB-01-01 Volume Purged: 35 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - milliSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge from kitchen sink (there are exterior spigots, but they are winterized)
- pre-system sample collected from spigot at well head

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Arritt

Well Address: 114 Russet Lane Station ID: MGPW014

Pre-filter Sample: PW-014A-01 Sample Date/Time: 1/15/13 9:55

Post-filter Sample: PW-014B-01 Sample Date/Time: 1/15/13 10:00

Purge Start Time: 9:38 Purge Stop Time: 9:55

QA/QC Sample(s): TB-01-01 Volume Purged: 85 gallons (approximate)
→(ml/cm)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

flow rate = ~5 gpm

- pre-system sample from spigot at wellhead

- purge and sample from post-system sample port on 1PM system.

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 30 Mariah Lane Station ID: MGPW143

Pre-filter Sample: PW-143A-01 Sample Date/Time: 1/15/13 14:00

Post-filter Sample: PW-143B-D1 Sample Date/Time: 1/15/13 14:05

Purge Start Time: 13:42 Purge Stop Time: 13:59

QA/QC Sample(s): TB-D1-01 Volume Purged: 102 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~6 gpm
- purge sample from post-IRM system exterior spigot on house
- pre-IRM system sample collected from spigot at wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.Kelly & J.Avrill

Well Address: 28 Moriah Lane Station ID: M61PW063

Pre-filter Sample: PW-063A-01 Sample Date/Time: 1/15/03 14:35

Post-filter Sample: PW-063B-01 Sample Date/Time: 1/15/03 14:40

Purge Start Time: 14:18 Purge Stop Time: 14:39

QA/QC Sample(s): TB-01-01 Volume Purged: 84 gallons (approximate)
FD-02-01 (PW-063A-01) (mS/cm)

Time	pH	Temperature (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Comments
initial	6.92	14.5	334.4	0.42	
14:23	6.91	14.4	316.5	0.30	
14:28	6.90	14.5	299.1	0.42	
14:33	6.85	14.6	264.8	0.55	
14:38	6.82	14.8	258.3	0.44	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

flow rate = ~4 gpm

- Purge (sample) at exterior spigot (post-IPHS system)

- pre-system sample from spigot at wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.kelly & J.Arritte

Well Address: 536 School Road Station ID: MGPW133

Pre-filter Sample: DW-133-01 Sample Date/Time: 1/15/13 15:55

Post-filter Sample: N/A Sample Date/Time: N/A

Purge Start Time: 15:36 Purge Stop Time: 15:55

QA/QC Sample(s): TB-01-01 Volume Purged: 100 gallons (approximate)

Time	pH	Temperature (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Comments
initial	6.45	12.3	151.1	2.49	
15:41	6.46	14.5	151.7	1.12	
15:46	6.49	14.8	151.2	0.82	
15:51	6.51	15.0	151.4	0.89	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~8.5 gpm
- purge/sample at exterior spigot on house

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 83 Hemlock St. Station ID: MGPW149

Pre-filter Sample: PW-149A-01 Sample Date/Time: 11/13 8:35

Post-filter Sample: PW-149B-01 Sample Date/Time: 11/13 8:40

Purge Start Time: 8:19 Purge Stop Time: 8:44

QA/QC Sample(s): TB-02-01 Volume Purged: 100 gallons (approximate)
→ (mS/cm)

Time	pH	Temperature (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Comments
initial	8.33	19.0	389.8	0.21	
8:24	8.62	16.1	374.7	0.23	
8:29	8.70	14.8	350.1	0.38	
8:34	8.77	13.8	251.2	0.21	
8:38	8.85	13.5	222.7	0.28	
8:43	8.90	14.0	214.2	0.27	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- purge sample from exterior spigot on house
- pre-system sample collected at well head spigot
- flow rate = ~5 gpm

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 23 Ralph's Lane Station ID: M6PW103

Pre-filter Sample: PW-103A-01 Sample Date/Time: 1/16/03 9:35

Post-filter Sample: PW-103B-01 Sample Date/Time: 1/16/03 9:40

Purge Start Time: 9:16 Purge Stop Time: 9:32

QA/QC Sample(s): TB-02-01 Volume Purged: 120 gallons (approximate)

(mS/cm)

Time	pH	Temperature (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Comments
Initial 1/16/03 09:16	7.12	12.1	156.7	0.44	
9:21	6.94	12.7	157.5	0.51	
9:26	6.89	13.8	155.9	0.40	
9:31	6.93	14.2	153.0	0.37	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~7.5 gpm
- purge / sample from exterior spigot on house (post-1PM system)
- pre-1PM system sample from spigot at wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 455 School Road Station ID: WGPW157

Pre-filter Sample: DN 157A-p1 Sample Date/Time: 1/16/13 10:20

Post-filter Sample: PW-157B-01 Sample Date/Time: 1/16/13 10:25

Purge Start Time: 10:00 Purge Stop Time: 10:20

QA/QC Sample(s): TB-02-01 Volume Purged: 80 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = 5 gpm
- purge / sample from exterior spigot on house (post-IRM system)
- pre-IRM system sample collected from spigot at wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 110 wineberry lane Station ID: M6PWN101

Pre-filter Sample: PW-101A-01 Sample Date/Time: 1/16/13 11:35

Post-filter Sample: PW-101B-01 Sample Date/Time: 1/10/13 11:40

Purge Start Time: 11:16 Purge Stop Time: 11:33

QA/QC Sample(s): TB-02-01 Volume Purged: 136 gallons (approximate)
FD-03-01 (PW-101A-01) → ($\mu\text{S}/\text{cm}$)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celsius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~8 gpm
 - purge/sample from post-IRM system sample port
 - pre-IRM system sample collected from spigot at pressure tank

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Arritt

Well Address: 624 School Road Station ID: MGPW058

Pre-filter Sample: PW-058A-01 Sample Date/Time: 1/16/13 13:40

Post-filter Sample: PW-058B-01 Sample Date/Time: 11/13 13:45

Purge Start Time: 13:20 Purge Stop Time: 13:37

QA/QC Sample(s): TB-D2-D1 Volume Purged: 85 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~5 gpm
- purge) sample from exterior spigot on house (post-1PM system)
- pre-1PM system sample from spigot at wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 1619 School Road Station ID: MGPW060

Pre-filter Sample: PW-060A-01 Sample Date/Time: 11/6/13 1435

Post-filter Sample: PW-060B-01 Sample Date/Time: 1/16 /13 1930

Purge Start Time: 14:15 Purge Stop Time: 14:30

QA/QC Sample(s): TB-02-01 Volume Purged: 75 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = 5 gpm
- purge | sample at exterior spigot on house
- pre-12m system sample (collected from spigot at well head)

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Aviitt

Well Address: 19 chipping green Station ID: M1PW039

Pre-filter Sample: PW-039A-01 Sample Date/Time: 1/16/13 15:50

Post-filter Sample: PW-039B-01 Sample Date/Time: 1/16/13 15:55

Purge Start Time: 15:33 Purge Stop Time: 15:50

QA/QC Sample(s): TB-02-D1 Volume Purged: 10 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~0.5 gpm
 - purge | Sample from post-IRM system sample port
 - pre-IRM system sample collected from spigot at wellhead

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avitt

Well Address: 2 Forest Run Drive Station ID: MGPW146

Pre-filter Sample: PW-1416A-01 Sample Date/Time: 1/17/13 9:45

Post-filter Sample: PW-146B-01 Sample Date/Time: 1/17/13 9:50

Purge Start Time: 9:28 Purge Stop Time: 9:45

QA/QC Sample(s): TB-03-01 Volume Purged: 68 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flowrate = ~1gpm
 - purge/sample from exterior spigot on house (post-IRM system)
 - pre-IRM system collected from sample port on system

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 117 Russet Lane Station ID: M61PW046

Pre-filter Sample: PW-0416-01 Sample Date/Time: 1/17/13 10:25

Post-filter Sample: N/A Sample Date/Time: N/A

Purge Start Time: 10:06 Purge Stop Time: 10:22

QA/QC Sample(s): TB-03-01 Volume Purged: 80 gallons (approximate)
 $\mu\text{S}/\text{cm}$

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~5 gpm
 - purge/sample from spigot on wellhead
 - there is an "iron bacteria control" device at wellhead
 - owner indicates the device "injects" something into the well, maybe chlorine
 - there is a chlorine odor in the purge water

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 35 Walsh Trace Station ID: MGPW047

Pre-filter Sample: PN-047A-01 Sample Date/Time: 1/17/13 11:20

Post-filter Sample: PN-047B-01 Sample Date/Time: 1/17/13 11:25

Purge Start Time: 11:01 Purge Stop Time: 11:20

QA/QC Sample(s): TB-03-01 Volume Purged: 95 gallons (approximate)

mS/cm

Time	pH	Temperature (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Comments
Initial	6.63	15.0	268.4	0.59	
11:06	6.63	12.9	235.6	0.45	
11:11	6.60	12.5	207.3	0.46	
11:16	6.56	12.3	183.0	0.27	
11:20	6.49	12.7	171.6	0.13	

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~5 gpm
- purge / sample from spigot on house
- collect pre-REM system sample at wellhead spigot

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 901 Weston Road Station ID: M6PW132

Pre-filter Sample: PW-132-01 Sample Date/Time: 1/18/13 14:55

Post-filter Sample: N/A Sample Date/Time: N/A

Purge Start Time: 14:38 Purge Stop Time: 14:54

QA/QC Sample(s): IB-04-01 Volume Purged: 40 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - milliSiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate: 2.5 gpm (pump turned off with higher flow rate, so purge) sample from spigot on wellhead
- purge at lower flow rates

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S. Kelly & J. Avritt

Well Address: 21 Ralphs Lane Station ID: M6PW121

Pre-filter Sample: PW-121A-01 Sample Date/Time: 1/18/13 15:25

Post-filter Sample: PW-121B-01 Sample Date/Time: 1/18/13 15:30

Purge Start Time: 15:09 Purge Stop Time: 15:25

QA/QC Sample(s): TB-D4-D1 Volume Purged: 32 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

flow rate = ~2 gpm

- purgelsample from kitchen sink (post-12m system)

- pre-IRM system sample collected from spigot at wellhead

* exterior spigot(s) are directly from well (not through Post-IRM system)

WATER SUPPLY WELL SAMPLING RECORD

Project Name: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0006.0004

Personnel: S.Kelly & J.Avrill

Well Address: 33 Deseret Drive Station ID: MGPW136

Pre-filter Sample: PW131cA-01 Sample Date/Time: 1/18/13 16:05

Post-filter Sample: PW 136B-D Sample Date/Time: 1/18/13 16:10

Purge Start Time: 15:49 Purge Stop Time: 16:05

QA/QC Sample(s): TB-04-01 Volume Purged: 160 gallons (approximate)

If alternative units are indicated by meter, indicate the proper measurement units above.

°C - degrees Celcius; mS/cm - millisiemens per centimeter; NTU - nephelometric turbidity units

Notes/Comments:

- flow rate = ~10 gpm
 - purge sample from post-IRM system sample port
 - pre-IRM system collected from pre-system sample port

WATER SUPPLY MONITORING - SAMPLE SUMMARY FORM

Project Name: CTS of Asheville, Inc. Superfund Site

Page 1 of 2

Project Number: 6252-12-0006.0004

Sample ID	Sampler's Initials	Sample Date	Sample Time	Associated QA/QC Sample(s)	Notes/Comments
PW - 091A - 01	SEK	1/14/13	13:40	TB-01-01	
PW - 091B - 01	SEK	1/14/13	13:45	TB-01-01	
PW - 151A - 01	SEK	1/14/13	15:30	FD-01-01 TB-01-01	
PW - 151B - 01	SEK	1/14/13	15:35	TB-01-01	
FD - 01 - 01 (PW-151A-01)	SEK	1/14/13	00:00	TB-01-01	
		1/15/13			
PW - 026A - 01	SEK	1/15/13	08:40	TB-01-01	
PW - 026B - 01	SEK	1/15/13	08:45	TB-01-01	
PW - 156A - 01	SEK	1/15/13	09:15	TB-01-01	
PW - 156B - 01	SEK	1/15/13	09:20	TB-01-01	
PW - 014A - 01	SEK	1/15/13	09:55	TB-01-01	
PW - 014B - 01	SEK	1/15/13	10:00	TB-01-01	
PW - 143A - 01	SEK	1/15/13	14:00	TB-01-01	
PW - 143B - 01	SEK	1/15/13	14:05	TB-01-01	
PW - 063A - 01	SEK	1/15/13	14:35	FD-02-01 TB-01-01	
PW - 063B - 01	SEK	1/15/13	14:40	TB-01-01	
PW - 133 - 01	SEK	1/15/13	15:55	TB-01-01	
FD - 02 - 01 (PW-063A-01)	SEK	1/15/13	00:00	TB-01-01	
		1/16/13			
PW - 149A - 01	SEK	1/16/13	08:35	TB-02-01	
PW - 149B - 01	SEK	1/16/13	08:40	TB-02-01	
PW - 103A - 01	SEK	1/16/13	09:35	TB-02-01	
PW - 103B - 01	SEK	1/16/13	09:40	TB-02-01	
PW - 157A - 01	SEK	1/16/13	10:20	TB-02-01	
PW - 157B - 01	SEK	1/16/13	10:25	TB-02-01	

WATER SUPPLY MONITORING - SAMPLE SUMMARY FORM

Project Name: CTS of Asheville, Inc. Superfund Site

Page 2 of 2

Project Number: 6252-12-0006.0004

Sample ID	Sampler's Initials	Sample Date	Sample Time	Associated QA/QC Sample(s)	Notes/Comments
PW-101A-01	SEK	1/16/13	11:35	PD-03-01 TB-02-01	
PW-101B-01	SEK	1/16/13	11:40	TB-02-01	
PW-058A-01	SEK	1/16/13	13:40	TB-02-01	
PW-058B-01	SEK	1/16/13	13:45	TB-02-01	
PW-060A-01	SEK	1/16/13	14:35	TB-02-01	
PW-060B-01	SEK	1/16/13	14:30	TB-02-01	
FD-03-01 (PW-101A-01)	SEK	1/16/13	00:00	TB-02-01	
PW-039A-01	SEK	1/16/13	15:50	TB-02-01	
PW-039B-01	SEK	1/16/13	15:55	TB-02-01	
		1/17/13			
PW-146A-01	SEK	1/17/13	09:45	TB-03-01	
PW-146B-01	SEK	1/17/13	09:50	TB-03-01	
PW-046-01	SEK	1/17/13	10:25	TB-03-01	
PW-047A-01	SEK	1/17/13	11:20	TB-03-01	
PW-047B-01	SEK	1/17/13	11:25	TB-03-01	
		1/18/13			
PW-132-01	SEK	1/18/13	14:55	TB-04-01	
PW-121A-01	SEK	1/18/13	15:25	TB-04-01	
PW-121B-01	SEK	1/18/13	15:30	TB-04-01	
PW-136A-01	SEK	1/18/13	16:05	TB-04-01	
PW-136B-01	SEK	1/18/13	16:10	TB-04-01	

APPENDIX B

PHOTOGRAPHS OF SAMPLING ACTIVITIES



Photograph No. 1: AMEC personnel collecting pre-IRM filtration system water sample from spigot on wellhead.

Date: January 15, 2013

Location: 114 Russet Lane

Photographer: Ryan Stubbs (OTIE)



Photograph No. 2: AMEC personnel measuring water quality parameters.

Date: January 15, 2013

Location: 30 Moriah Lane

Photographer: Ryan Stubbs (OTIE)



Photograph No. 3: AMEC personnel collecting post-IRM filtration system water sample from sample port.

Date: January 16, 2013

Location: 16 Chipping Green Drive

Photographer: Ryan Stubbs (OTIE)

APPENDIX C

LABORATORY ANALYTICAL REPORTS

RECEIVED

REC'D 2/15/13

(full data package)

Total Pages: 225



AMEC

Client Ref.: CTS of Asheville 6252120006

Pace-Charlotte Project No. 92144981

Pace Analytical Services, Inc.-Charlotte
9800 Kincey Ave
Suite 100
Huntersville, NC 28078

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Huntersville, NC 28078
(704)875-9092

January 24, 2013

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on January 15, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92144981001	TB-01-01	Water	01/14/13 00:00	01/15/13 16:57
92144981002	FD-01-01	Water	01/14/13 00:00	01/15/13 16:57
92144981003	PW-091A-01	Water	01/14/13 13:40	01/15/13 16:57
92144981004	PW-091B-01	Water	01/14/13 13:45	01/15/13 16:57
92144981005	PW-151A-01	Water	01/14/13 15:30	01/15/13 16:57
92144981006	PW-151B-01	Water	01/14/13 15:35	01/15/13 16:57
92144981007	FD-02-01	Water	01/15/13 00:00	01/15/13 16:57
92144981008	PW-026A-01	Water	01/15/13 08:40	01/15/13 16:57
92144981009	PW-026B-01	Water	01/15/13 08:45	01/15/13 16:57
92144981010	PW-156A-01	Water	01/15/13 09:15	01/15/13 16:57
92144981011	PW-156B-01	Water	01/15/13 09:20	01/15/13 16:57
92144981012	PW-014A-01	Water	01/15/13 09:55	01/15/13 16:57
92144981013	PW-014B-01	Water	01/15/13 10:00	01/15/13 16:57
92144981014	PW-143A-01	Water	01/15/13 14:00	01/15/13 16:57
92144981015	PW-143B-01	Water	01/15/13 14:05	01/15/13 16:57
92144981016	PW-063A-01	Water	01/15/13 14:35	01/15/13 16:57
92144981017	PW-063B-01	Water	01/15/13 14:40	01/15/13 16:57
92144981018	PW-133-01	Water	01/15/13 15:55	01/15/13 16:57

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92144981001	TB-01-01	EPA 8260	KJM	12	PASI-C
92144981002	FD-01-01	EPA 8260	KJM	12	PASI-C
92144981003	PW-091A-01	EPA 8260	KJM	12	PASI-C
92144981004	PW-091B-01	EPA 8260	KJM	12	PASI-C
92144981005	PW-151A-01	EPA 8260	KJM	12	PASI-C
92144981006	PW-151B-01	EPA 8260	KJM	12	PASI-C
92144981007	FD-02-01	EPA 8260	KJM	12	PASI-C
92144981008	PW-026A-01	EPA 8260	KJM	12	PASI-C
92144981009	PW-026B-01	EPA 8260	KJM	12	PASI-C
92144981010	PW-156A-01	EPA 8260	KJM	12	PASI-C
92144981011	PW-156B-01	EPA 8260	KJM	12	PASI-C
92144981012	PW-014A-01	EPA 8260	KJM	12	PASI-C
92144981013	PW-014B-01	EPA 8260	KJM	12	PASI-C
92144981014	PW-143A-01	EPA 8260	KJM	12	PASI-C
92144981015	PW-143B-01	EPA 8260	KJM	12	PASI-C
92144981016	PW-063A-01	EPA 8260	KJM	12	PASI-C
92144981017	PW-063B-01	EPA 8260	KJM	12	PASI-C
92144981018	PW-133-01	EPA 8260	KJM	12	PASI-C

REPORT OF LABORATORY ANALYSIS

Page 4 of 27

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PROJECT NARRATIVE

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Method: EPA 8260
Description: 8260 MSV Low Level
Client: AMEC, Asheville
Date: January 24, 2013

General Information:

18 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: TB-01-01	Lab ID: 92144981001	Collected: 01/14/13 00:00	Received: 01/15/13 16:57	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 16:38	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 16:38	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 16:38	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 16:38	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 16:38	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 16:38	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 16:38	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 16:38	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		01/18/13 16:38	460-00-4	
Dibromofluoromethane (S)	102 %		70-130		1		01/18/13 16:38	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		01/18/13 16:38	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/18/13 16:38	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: FD-01-01 Lab ID: 92144981002 Collected: 01/14/13 00:00 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 17:10	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 17:10	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 17:10	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 17:10	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 17:10	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 17:10	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 17:10	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 17:10	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	103 %		70-130		1		01/18/13 17:10	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/18/13 17:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/18/13 17:10	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/18/13 17:10	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-091A-01 Lab ID: 92144981003 Collected: 01/14/13 13:40 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 18:29	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 18:29	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 18:29	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 18:29	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 18:29	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 18:29	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 18:29	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 18:29	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/18/13 18:29	460-00-4	
Dibromofluoromethane (S)	104 %		70-130		1		01/18/13 18:29	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		70-130		1		01/18/13 18:29	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/18/13 18:29	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-091B-01 Lab ID: 92144981004 Collected: 01/14/13 13:45 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 18:45	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 18:45	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 18:45	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 18:45	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 18:45	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 18:45	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 18:45	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 18:45	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	102 %		70-130		1		01/18/13 18:45	460-00-4	
Dibromofluoromethane (S)	104 %		70-130		1		01/18/13 18:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/18/13 18:45	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		01/18/13 18:45	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-151A-01 Lab ID: 92144981005 Collected: 01/14/13 15:30 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 19:01	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 19:01	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 19:01	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 19:01	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 19:01	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 19:01	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 19:01	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 19:01	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/18/13 19:01	460-00-4	
Dibromofluoromethane (S)	102 %		70-130		1		01/18/13 19:01	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/18/13 19:01	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/18/13 19:01	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-151B-01 Lab ID: 92144981006 Collected: 01/14/13 15:35 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 19:17	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 19:17	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 19:17	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 19:17	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 19:17	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 19:17	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 19:17	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 19:17	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/18/13 19:17	460-00-4	
Dibromofluoromethane (S)	104 %		70-130		1		01/18/13 19:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/18/13 19:17	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		01/18/13 19:17	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: FD-02-01	Lab ID: 92144981007	Collected: 01/15/13 00:00	Received: 01/15/13 16:57	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 19:33	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 19:33	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 19:33	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 19:33	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 19:33	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 19:33	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 19:33	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 19:33	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	98 %		70-130		1		01/18/13 19:33	460-00-4	
Dibromofluoromethane (S)	104 %		70-130		1		01/18/13 19:33	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		70-130		1		01/18/13 19:33	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/18/13 19:33	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006

Pace Project No.: 92144981

Sample: PW-026A-01 Lab ID: 92144981008 Collected: 01/15/13 08:40 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 19:49	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 19:49	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 19:49	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 19:49	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 19:49	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 19:49	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 19:49	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 19:49	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	100 %		70-130		1		01/18/13 19:49	460-00-4	
Dibromofluoromethane (S)	105 %		70-130		1		01/18/13 19:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		01/18/13 19:49	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		01/18/13 19:49	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-026B-01 Lab ID: 92144981009 Collected: 01/15/13 08:45 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 20:05	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 20:05	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 20:05	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 20:05	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 20:05	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 20:05	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 20:05	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 20:05	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		01/18/13 20:05	460-00-4	
Dibromofluoromethane (S)	105 %		70-130		1		01/18/13 20:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		01/18/13 20:05	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/18/13 20:05	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-156A-01 Lab ID: 92144981010 Collected: 01/15/13 09:15 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 20:21	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 20:21	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 20:21	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 20:21	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 20:21	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 20:21	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 20:21	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 20:21	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/18/13 20:21	460-00-4	
Dibromofluoromethane (S)	103 %		70-130		1		01/18/13 20:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/18/13 20:21	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		01/18/13 20:21	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-156B-01	Lab ID: 92144981011	Collected: 01/15/13 09:20	Received: 01/15/13 16:57	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 20:37	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 20:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 20:37	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 20:37	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 20:37	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 20:37	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 20:37	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 20:37	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/18/13 20:37	460-00-4	
Dibromofluoromethane (S)	105 %		70-130		1		01/18/13 20:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		70-130		1		01/18/13 20:37	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/18/13 20:37	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-014A-01	Lab ID: 92144981012	Collected: 01/15/13 09:55	Received: 01/15/13 16:57	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 20:53	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 20:53	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 20:53	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 20:53	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 20:53	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 20:53	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 20:53	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 20:53	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	103 %		70-130		1		01/18/13 20:53	460-00-4	
Dibromofluoromethane (S)	105 %		70-130		1		01/18/13 20:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		70-130		1		01/18/13 20:53	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/18/13 20:53	2037-26-5	



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(704)875-9092

ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-014B-01 Lab ID: 92144981013 Collected: 01/15/13 10:00 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 21:09	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 21:09	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 21:09	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 21:09	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 21:09	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 21:09	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 21:09	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 21:09	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		01/18/13 21:09	460-00-4	
Dibromofluoromethane (S)	105 %		70-130		1		01/18/13 21:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		70-130		1		01/18/13 21:09	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/18/13 21:09	2037-26-5	

ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-143A-01 Lab ID: 92144981014 Collected: 01/15/13 14:00 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level								Analytical Method: EPA 8260	
1,1-Dichloroethene	ND ug/L		1.0	0.56	1			01/18/13 21:25	75-35-4
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1			01/18/13 21:25	156-59-2
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1			01/18/13 21:25	156-60-5
Tetrachloroethene	ND ug/L		1.0	0.46	1			01/18/13 21:25	127-18-4
Toluene	ND ug/L		1.0	0.26	1			01/18/13 21:25	108-88-3
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1			01/18/13 21:25	71-55-6
Trichloroethene	ND ug/L		1.0	0.47	1			01/18/13 21:25	79-01-6
Vinyl chloride	ND ug/L		1.0	0.62	1			01/18/13 21:25	75-01-4
Surrogates									
4-Bromofluorobenzene (S)	102 %		70-130		1			01/18/13 21:25	460-00-4
Dibromofluoromethane (S)	104 %		70-130		1			01/18/13 21:25	1868-53-7
1,2-Dichloroethane-d4 (S)	104 %		70-130		1			01/18/13 21:25	17060-07-0
Toluene-d8 (S)	101 %		70-130		1			01/18/13 21:25	2037-26-5



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-143B-01 Lab ID: 92144981015 Collected: 01/15/13 14:05 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 21:41	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 21:41	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 21:41	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 21:41	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 21:41	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 21:41	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 21:41	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 21:41	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	100 %		70-130		1		01/18/13 21:41	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/18/13 21:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		70-130		1		01/18/13 21:41	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/18/13 21:41	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-063A-01 Lab ID: 92144981016 Collected: 01/15/13 14:35 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 21:56	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 21:56	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 21:56	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 21:56	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 21:56	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 21:56	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 21:56	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 21:56	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	100 %		70-130		1		01/18/13 21:56	460-00-4	
Dibromofluoromethane (S)	105 %		70-130		1		01/18/13 21:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/18/13 21:56	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/18/13 21:56	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-063B-01 Lab ID: 92144981017 Collected: 01/15/13 14:40 Received: 01/15/13 16:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 22:12	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 22:12	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 22:12	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 22:12	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 22:12	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 22:12	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 22:12	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 22:12	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/18/13 22:12	460-00-4	
Dibromofluoromethane (S)	105 %		70-130		1		01/18/13 22:12	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		70-130		1		01/18/13 22:12	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/18/13 22:12	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Sample: PW-133-01	Lab ID: 92144981018	Collected: 01/15/13 15:55	Received: 01/15/13 16:57	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/18/13 22:28	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/18/13 22:28	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/18/13 22:28	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/18/13 22:28	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/18/13 22:28	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/18/13 22:28	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/18/13 22:28	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/18/13 22:28	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/18/13 22:28	460-00-4	
Dibromofluoromethane (S)	103 %		70-130		1		01/18/13 22:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		01/18/13 22:28	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/18/13 22:28	2037-26-5	

QUALITY CONTROL DATA

Project: CTS of Asheville 6252120006

Pace Project No.: 92144981

QC Batch:	MSV/21750	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92144981001, 92144981002, 92144981003, 92144981004, 92144981005, 92144981006, 92144981007, 92144981008, 92144981009, 92144981010, 92144981011, 92144981012, 92144981013, 92144981014, 92144981015, 92144981016, 92144981017, 92144981018		

METHOD BLANK: 907823

Matrix: Water

Associated Lab Samples: 92144981001, 92144981002, 92144981003, 92144981004, 92144981005, 92144981006, 92144981007,
92144981008, 92144981009, 92144981010, 92144981011, 92144981012, 92144981013, 92144981014,
92144981015, 92144981016, 92144981017, 92144981018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
1,1,1-Trichloroethane	ug/L	ND	1.0	01/18/13 16:06	
1,1-Dichloroethene	ug/L	ND	1.0	01/18/13 16:06	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/18/13 16:06	
Tetrachloroethene	ug/L	ND	1.0	01/18/13 16:06	
Toluene	ug/L	ND	1.0	01/18/13 16:06	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/18/13 16:06	
Trichloroethene	ug/L	ND	1.0	01/18/13 16:06	
Vinyl chloride	ug/L	ND	1.0	01/18/13 16:06	
1,2-Dichloroethane-d4 (S)	%	104	70-130	01/18/13 16:06	
4-Bromofluorobenzene (S)	%	101	70-130	01/18/13 16:06	
Dibromofluoromethane (S)	%	104	70-130	01/18/13 16:06	
Toluene-d8 (S)	%	101	70-130	01/18/13 16:06	

LABORATORY CONTROL SAMPLE: 907824

Parameter	Units	Spike	LCS	LCS	% Rec	Limits	Qualifiers
		Conc.	Result	% Rec			
1,1,1-Trichloroethane	ug/L	50	48.0	96	70-130		
1,1-Dichloroethene	ug/L	50	42.0	84	70-132		
cis-1,2-Dichloroethene	ug/L	50	44.8	90	70-131		
Tetrachloroethene	ug/L	50	46.4	93	70-130		
Toluene	ug/L	50	47.6	95	70-130		
trans-1,2-Dichloroethene	ug/L	50	43.0	86	70-130		
Trichloroethene	ug/L	50	46.0	92	70-130		
Vinyl chloride	ug/L	50	48.0	96	69-130		
1,2-Dichloroethane-d4 (S)	%		103	70-130			
4-Bromofluorobenzene (S)	%		98	70-130			
Dibromofluoromethane (S)	%		101	70-130			
Toluene-d8 (S)	%		101	70-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 907825 907826

Parameter	Units	92144981002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max	Qual
			Spike Conc.	Spike Conc.						RPD	
1,1-Dichloroethene	ug/L	ND	50	50	54.1	49.6	108	99	70-166	9	30
Toluene	ug/L	ND	50	50	58.8	52.9	118	106	70-155	10	30
Trichloroethene	ug/L	ND	50	50	57.4	52.2	115	104	69-151	9	30

Date: 01/24/2013 04:14 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			907825	907826								
Parameter	Units	92144981002	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
1,2-Dichloroethane-d4 (S)	%						103	105	70-130			
4-Bromofluorobenzene (S)	%						99	99	70-130			
Dibromofluoromethane (S)	%						101	102	70-130			
Toluene-d8 (S)	%						99	97	70-130			

QUALIFIERS

Project: CTS of Asheville 6252120006
 Pace Project No.: 92144981

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS of Asheville 6252120006
Pace Project No.: 92144981

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92144981001	TB-01-01	EPA 8260	MSV/21750		
92144981002	FD-01-01	EPA 8260	MSV/21750		
92144981003	PW-091A-01	EPA 8260	MSV/21750		
92144981004	PW-091B-01	EPA 8260	MSV/21750		
92144981005	PW-151A-01	EPA 8260	MSV/21750		
92144981006	PW-151B-01	EPA 8260	MSV/21750		
92144981007	FD-02-01	EPA 8260	MSV/21750		
92144981008	PW-026A-01	EPA 8260	MSV/21750		
92144981009	PW-026B-01	EPA 8260	MSV/21750		
92144981010	PW-156A-01	EPA 8260	MSV/21750		
92144981011	PW-156B-01	EPA 8260	MSV/21750		
92144981012	PW-014A-01	EPA 8260	MSV/21750		
92144981013	PW-014B-01	EPA 8260	MSV/21750		
92144981014	PW-143A-01	EPA 8260	MSV/21750		
92144981015	PW-143B-01	EPA 8260	MSV/21750		
92144981016	PW-063A-01	EPA 8260	MSV/21750		
92144981017	PW-063B-01	EPA 8260	MSV/21750		
92144981018	PW-133-01	EPA 8260	MSV/21750		

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(full data package)

Total Pages: 217



AMEC

Client Ref.: CTS of Asheville 6252120006

Pace-Charlotte Project No. 92145197

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January 23, 2013

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on January 16, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



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CERTIFICATIONS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CTS OF ASHEVILLE 6252120006
 Pace Project No.: 92145197

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92145197001	TB-02-01	Water	01/16/13 00:00	01/16/13 16:41
92145197002	FD-03-01	Water	01/16/13 00:00	01/16/13 16:41
92145197003	PW-149A-01	Water	01/16/13 08:35	01/16/13 16:41
92145197004	PW-149B-01	Water	01/16/13 08:40	01/16/13 16:41
92145197005	PW-103A-01	Water	01/16/13 09:35	01/16/13 16:41
92145197006	PW-103B-01	Water	01/16/13 09:40	01/16/13 16:41
92145197007	PW-157A-01	Water	01/16/13 10:20	01/16/13 16:41
92145197008	PW-157B-01	Water	01/16/13 10:25	01/16/13 16:41
92145197009	PW-101A-01	Water	01/16/13 11:35	01/16/13 16:41
92145197010	PW-101B-01	Water	01/16/13 11:40	01/16/13 16:41
92145197011	PW-058A-01	Water	01/16/13 13:40	01/16/13 16:41
92145197012	PW-058B-01	Water	01/16/13 13:45	01/16/13 16:41
92145197013	PW-060A-01	Water	01/16/13 14:35	01/16/13 16:41
92145197014	PW-060B-01	Water	01/16/13 14:30	01/16/13 16:41
92145197015	PW-039A-01	Water	01/16/13 15:50	01/16/13 16:41
92145197016	PW-039B-01	Water	01/16/13 15:55	01/16/13 16:41

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92145197001	TB-02-01	EPA 8260	KJM	12	PASI-C
92145197002	FD-03-01	EPA 8260	KJM	12	PASI-C
92145197003	PW-149A-01	EPA 8260	KJM	12	PASI-C
92145197004	PW-149B-01	EPA 8260	KJM	12	PASI-C
92145197005	PW-103A-01	EPA 8260	KJM	12	PASI-C
92145197006	PW-103B-01	EPA 8260	KJM	12	PASI-C
92145197007	PW-157A-01	EPA 8260	KJM	12	PASI-C
92145197008	PW-157B-01	EPA 8260	KJM	12	PASI-C
92145197009	PW-101A-01	EPA 8260	KJM	12	PASI-C
92145197010	PW-101B-01	EPA 8260	KJM	12	PASI-C
92145197011	PW-058A-01	EPA 8260	KJM	12	PASI-C
92145197012	PW-058B-01	EPA 8260	KJM	12	PASI-C
92145197013	PW-060A-01	EPA 8260	KJM	12	PASI-C
92145197014	PW-060B-01	EPA 8260	KJM	12	PASI-C
92145197015	PW-039A-01	EPA 8260	KJM	12	PASI-C
92145197016	PW-039B-01	EPA 8260	KJM	12	PASI-C

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Method: EPA 8260
Description: 8260 MSV Low Level
Client: AMEC, Asheville
Date: January 23, 2013

General Information:

16 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: TB-02-01 Lab ID: 92145197001 Collected: 01/16/13 00:00 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 16:50	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 16:50	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 16:50	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 16:50	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 16:50	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 16:50	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 16:50	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 16:50	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/21/13 16:50	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		01/21/13 16:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		01/21/13 16:50	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 16:50	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: FD-03-01 Lab ID: 92145197002 Collected: 01/16/13 00:00 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 17:21	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 17:21	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 17:21	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 17:21	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 17:21	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 17:21	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 17:21	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 17:21	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/21/13 17:21	460-00-4	
Dibromofluoromethane (S)	111 %		70-130		1		01/21/13 17:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	109 %		70-130		1		01/21/13 17:21	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		01/21/13 17:21	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-149A-01 Lab ID: 92145197003 Collected: 01/16/13 08:35 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 17:37	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 17:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 17:37	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 17:37	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 17:37	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 17:37	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 17:37	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 17:37	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		01/21/13 17:37	460-00-4	
Dibromofluoromethane (S)	109 %		70-130		1		01/21/13 17:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		01/21/13 17:37	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 17:37	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-149B-01 Lab ID: 92145197004 Collected: 01/16/13 08:40 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 17:53	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 17:53	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 17:53	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 17:53	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 17:53	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 17:53	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 17:53	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 17:53	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		01/21/13 17:53	460-00-4	
Dibromofluoromethane (S)	108 %		70-130		1		01/21/13 17:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		70-130		1		01/21/13 17:53	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/21/13 17:53	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-103A-01 Lab ID: 92145197005 Collected: 01/16/13 09:35 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 12:52	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 12:52	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 12:52	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 12:52	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 12:52	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 12:52	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 12:52	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 12:52	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	104 %		70-130		1		01/21/13 12:52	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/21/13 12:52	1868-53-7	
1,2-Dichloroethane-d4 (S)	100 %		70-130		1		01/21/13 12:52	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 12:52	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-103B-01 Lab ID: 92145197006 Collected: 01/16/13 09:40 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 18:09	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 18:09	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 18:09	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 18:09	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 18:09	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 18:09	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 18:09	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 18:09	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	100 %		70-130		1		01/21/13 18:09	460-00-4	
Dibromofluoromethane (S)	109 %		70-130		1		01/21/13 18:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		70-130		1		01/21/13 18:09	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 18:09	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-157A-01 Lab ID: 92145197007 Collected: 01/16/13 10:20 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 18:25	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 18:25	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 18:25	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 18:25	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 18:25	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 18:25	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 18:25	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 18:25	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/21/13 18:25	460-00-4	
Dibromofluoromethane (S)	110 %		70-130		1		01/21/13 18:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		70-130		1		01/21/13 18:25	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		01/21/13 18:25	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-157B-01 Lab ID: 92145197008 Collected: 01/16/13 10:25 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 18:41	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 18:41	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 18:41	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 18:41	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 18:41	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 18:41	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 18:41	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 18:41	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	103 %		70-130		1		01/21/13 18:41	460-00-4	
Dibromofluoromethane (S)	111 %		70-130		1		01/21/13 18:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		70-130		1		01/21/13 18:41	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		01/21/13 18:41	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-101A-01 Lab ID: 92145197009 Collected: 01/16/13 11:35 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Analytical Method: EPA 8260									
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 18:56	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 18:56	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 18:56	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 18:56	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 18:56	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 18:56	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 18:56	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 18:56	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		01/21/13 18:56	460-00-4	
Dibromofluoromethane (S)	109 %		70-130		1		01/21/13 18:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		01/21/13 18:56	17060-07-0	
Toluene-d8 (S)	101 %		70-130		1		01/21/13 18:56	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-101B-01	Lab ID: 92145197010	Collected: 01/16/13 11:40	Received: 01/16/13 16:41	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 19:12	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 19:12	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 19:12	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 19:12	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 19:12	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 19:12	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 19:12	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 19:12	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		01/21/13 19:12	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		01/21/13 19:12	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		70-130		1		01/21/13 19:12	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 19:12	2037-26-5	



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(704)875-9092

ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-058A-01 Lab ID: 92145197011 Collected: 01/16/13 13:40 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 19:28	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 19:28	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 19:28	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 19:28	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 19:28	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 19:28	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 19:28	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 19:28	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/21/13 19:28	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/21/13 19:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/21/13 19:28	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/21/13 19:28	2037-26-5	

ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-058B-01 Lab ID: 92145197012 Collected: 01/16/13 13:45 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 19:44	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 19:44	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 19:44	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 19:44	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 19:44	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 19:44	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 19:44	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 19:44	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		01/21/13 19:44	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		01/21/13 19:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		70-130		1		01/21/13 19:44	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 19:44	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-060A-01 Lab ID: 92145197013 Collected: 01/16/13 14:35 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 20:00	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 20:00	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 20:00	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 20:00	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 20:00	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 20:00	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 20:00	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 20:00	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	100 %		70-130		1		01/21/13 20:00	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		01/21/13 20:00	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/21/13 20:00	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/21/13 20:00	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-060B-01 Lab ID: 92145197014 Collected: 01/16/13 14:30 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 20:16	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 20:16	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 20:16	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 20:16	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 20:16	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 20:16	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 20:16	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 20:16	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	103 %		70-130		1		01/21/13 20:16	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/21/13 20:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		70-130		1		01/21/13 20:16	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 20:16	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-039A-01 Lab ID: 92145197015 Collected: 01/16/13 15:50 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 20:32	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 20:32	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 20:32	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 20:32	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 20:32	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 20:32	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 20:32	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 20:32	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/21/13 20:32	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		01/21/13 20:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/21/13 20:32	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 20:32	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Sample: PW-039B-01 Lab ID: 92145197016 Collected: 01/16/13 15:55 Received: 01/16/13 16:41 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 20:48	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 20:48	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 20:48	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 20:48	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 20:48	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 20:48	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 20:48	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 20:48	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	102 %		70-130		1		01/21/13 20:48	460-00-4	
Dibromofluoromethane (S)	101 %		70-130		1		01/21/13 20:48	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		01/21/13 20:48	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 20:48	2037-26-5	

QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92145197

QC Batch:	MSV/21767	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92145197001, 92145197002, 92145197003, 92145197004, 92145197005, 92145197006, 92145197007, 92145197008, 92145197009, 92145197010, 92145197011, 92145197012, 92145197013, 92145197014, 92145197015, 92145197016		

METHOD BLANK: 908510

Matrix: Water

Associated Lab Samples: 92145197001, 92145197002, 92145197003, 92145197004, 92145197005, 92145197006, 92145197007,
92145197008, 92145197009, 92145197010, 92145197011, 92145197012, 92145197013, 92145197014,
92145197015, 92145197016

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
1,1,1-Trichloroethane	ug/L	ND	1.0	01/21/13 12:20	
1,1-Dichloroethene	ug/L	ND	1.0	01/21/13 12:20	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/21/13 12:20	
Tetrachloroethene	ug/L	ND	1.0	01/21/13 12:20	
Toluene	ug/L	ND	1.0	01/21/13 12:20	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/21/13 12:20	
Trichloroethene	ug/L	ND	1.0	01/21/13 12:20	
Vinyl chloride	ug/L	ND	1.0	01/21/13 12:20	
1,2-Dichloroethane-d4 (S)	%	98	70-130	01/21/13 12:20	
4-Bromofluorobenzene (S)	%	96	70-130	01/21/13 12:20	
Dibromofluoromethane (S)	%	104	70-130	01/21/13 12:20	
Toluene-d8 (S)	%	98	70-130	01/21/13 12:20	

LABORATORY CONTROL SAMPLE: 908511

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
1,1,1-Trichloroethane	ug/L	50	46.0	92	70-130	
1,1-Dichloroethene	ug/L	50	43.2	86	70-132	
cis-1,2-Dichloroethene	ug/L	50	42.6	85	70-131	
Tetrachloroethene	ug/L	50	48.1	96	70-130	
Toluene	ug/L	50	45.4	91	70-130	
trans-1,2-Dichloroethene	ug/L	50	41.2	82	70-130	
Trichloroethene	ug/L	50	45.1	90	70-130	
Vinyl chloride	ug/L	50	37.0	74	69-130	
1,2-Dichloroethane-d4 (S)	%		98	70-130		
4-Bromofluorobenzene (S)	%		102	70-130		
Dibromofluoromethane (S)	%		95	70-130		
Toluene-d8 (S)	%		97	70-130		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 908512 908513

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	Max		
		92145197005	Spike	Spike	Result	Result	% Rec	RPD	RPD	Qual	
1,1-Dichloroethene	ug/L	ND	50	50	53.1	53.7	106	107	70-166	1	30
Toluene	ug/L	ND	50	50	51.7	52.1	103	104	70-155	1	30
Trichloroethene	ug/L	ND	50	50	51.0	51.3	102	103	69-151	0	30

Date: 01/23/2013 05:01 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 908512 908513

Parameter	Units	Result	MS	MSD	MS	MSD	MS % Rec	MSD % Rec	% Rec	Max	RPD	RPD	Qual
			92145197005	Spike Conc.	Spike Conc.	Result	Result	Result	Limits	RPD			
1,2-Dichloroethane-d4 (S)	%							104	103	70-130			
4-Bromofluorobenzene (S)	%							99	100	70-130			
Dibromofluoromethane (S)	%							103	105	70-130			
Toluene-d8 (S)	%							98	98	70-130			

QUALIFIERS

Project: CTS OF ASHEVILLE 6252120006
 Pace Project No.: 92145197

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145197

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92145197001	TB-02-01	EPA 8260	MSV/21767		
92145197002	FD-03-01	EPA 8260	MSV/21767		
92145197003	PW-149A-01	EPA 8260	MSV/21767		
92145197004	PW-149B-01	EPA 8260	MSV/21767		
92145197005	PW-103A-01	EPA 8260	MSV/21767		
92145197006	PW-103B-01	EPA 8260	MSV/21767		
92145197007	PW-157A-01	EPA 8260	MSV/21767		
92145197008	PW-157B-01	EPA 8260	MSV/21767		
92145197009	PW-101A-01	EPA 8260	MSV/21767		
92145197010	PW-101B-01	EPA 8260	MSV/21767		
92145197011	PW-058A-01	EPA 8260	MSV/21767		
92145197012	PW-058B-01	EPA 8260	MSV/21767		
92145197013	PW-060A-01	EPA 8260	MSV/21767		
92145197014	PW-060B-01	EPA 8260	MSV/21767		
92145197015	PW-039A-01	EPA 8260	MSV/21767		
92145197016	PW-039B-01	EPA 8260	MSV/21767		



CHAIN-OE-CI STUDY / Analytical Request Document

CHAIN-OF-CUSTODY / Analytical Request Document

F-ALL-Q-020rev.07, 15-May-2007

RECEIVED
REC'D 2/15/13
(full data package)

Total Pages: 152



AMEC

Client Ref.: CTS of Asheville 6252120006

Pace-Charlotte Project No. 92145319

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January 23, 2013

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on January 17, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92145319001	TB-03-01	Water	01/17/13 00:00	01/17/13 13:03
92145319002	PW-146A-01	Water	01/17/13 09:45	01/17/13 13:03
92145319003	PW-146B-01	Water	01/17/13 09:50	01/17/13 13:03
92145319004	PW-046-01	Water	01/17/13 10:25	01/17/13 13:03
92145319005	PW-047A-01	Water	01/17/13 11:20	01/17/13 13:03
92145319006	PW-047B-01	Water	01/17/13 11:25	01/17/13 13:03

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92145319001	TB-03-01	EPA 8260	KJM	12	PASI-C
92145319002	PW-146A-01	EPA 8260	KJM	12	PASI-C
92145319003	PW-146B-01	EPA 8260	KJM	12	PASI-C
92145319004	PW-046-01	EPA 8260	KJM	12	PASI-C
92145319005	PW-047A-01	EPA 8260	KJM	12	PASI-C
92145319006	PW-047B-01	EPA 8260	KJM	12	PASI-C

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS of Asheville 6252120006

Pace Project No.: 92145319

Method: EPA 8260

Description: 8260 MSV Low Level

Client: AMEC, Asheville

Date: January 23, 2013

General Information:

6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 5 of 14

ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Sample: TB-03-01	Lab ID: 92145319001	Collected: 01/17/13 00:00	Received: 01/17/13 13:03	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 17:06	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 17:06	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 17:06	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 17:06	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 17:06	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 17:06	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 17:06	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 17:06	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		01/21/13 17:06	460-00-4	
Dibromofluoromethane (S)	112 %		70-130		1		01/21/13 17:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		70-130		1		01/21/13 17:06	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 17:06	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Sample: PW-146A-01 Lab ID: 92145319002 Collected: 01/17/13 09:45 Received: 01/17/13 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 13:08	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 13:08	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 13:08	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 13:08	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 13:08	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 13:08	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 13:08	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 13:08	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		01/21/13 13:08	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		01/21/13 13:08	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		01/21/13 13:08	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 13:08	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Sample: PW-146B-01 Lab ID: 92145319003 Collected: 01/17/13 09:50 Received: 01/17/13 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 21:04	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 21:04	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 21:04	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 21:04	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 21:04	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 21:04	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 21:04	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 21:04	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	102 %		70-130		1		01/21/13 21:04	460-00-4	
Dibromofluoromethane (S)	102 %		70-130		1		01/21/13 21:04	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		70-130		1		01/21/13 21:04	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/21/13 21:04	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Sample: PW-046-01 Lab ID: 92145319004 Collected: 01/17/13 10:25 Received: 01/17/13 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 21:20	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 21:20	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 21:20	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 21:20	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 21:20	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 21:20	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 21:20	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 21:20	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/21/13 21:20	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/21/13 21:20	1868-53-7	
1,2-Dichloroethane-d4 (S)	101 %		70-130		1		01/21/13 21:20	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		01/21/13 21:20	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Sample: PW-047A-01 Lab ID: 92145319005 Collected: 01/17/13 11:20 Received: 01/17/13 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 21:35	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 21:35	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 21:35	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 21:35	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 21:35	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 21:35	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 21:35	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 21:35	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/21/13 21:35	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		01/21/13 21:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		01/21/13 21:35	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/21/13 21:35	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Sample: PW-047B-01 Lab ID: 92145319006 Collected: 01/17/13 11:25 Received: 01/17/13 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/13 21:51	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/13 21:51	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/13 21:51	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/13 21:51	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/13 21:51	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/13 21:51	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/13 21:51	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/13 21:51	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	100 %		70-130		1		01/21/13 21:51	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/21/13 21:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		70-130		1		01/21/13 21:51	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/21/13 21:51	2037-26-5	



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QUALITY CONTROL DATA

Project: CTS of Asheville 6252120006

Pace Project No.: 92145319

QC Batch: MSV/21768 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92145319001, 92145319002, 92145319003, 92145319004, 92145319005, 92145319006

METHOD BLANK: 908514 Matrix: Water

Associated Lab Samples: 92145319001, 92145319002, 92145319003, 92145319004, 92145319005, 92145319006

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
1,1,1-Trichloroethane	ug/L	ND	1.0	01/21/13 12:36	
1,1-Dichloroethene	ug/L	ND	1.0	01/21/13 12:36	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/21/13 12:36	
Tetrachloroethene	ug/L	ND	1.0	01/21/13 12:36	
Toluene	ug/L	ND	1.0	01/21/13 12:36	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/21/13 12:36	
Trichloroethene	ug/L	ND	1.0	01/21/13 12:36	
Vinyl chloride	ug/L	ND	1.0	01/21/13 12:36	
1,2-Dichloroethane-d4 (S)	%	100	70-130	01/21/13 12:36	
4-Bromofluorobenzene (S)	%	102	70-130	01/21/13 12:36	
Dibromofluoromethane (S)	%	103	70-130	01/21/13 12:36	
Toluene-d8 (S)	%	98	70-130	01/21/13 12:36	

LABORATORY CONTROL SAMPLE: 908515

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	45.9	92	70-130	
1,1-Dichloroethene	ug/L	50	42.5	85	70-132	
cis-1,2-Dichloroethene	ug/L	50	42.8	86	70-131	
Tetrachloroethene	ug/L	50	50.0	100	70-130	
Toluene	ug/L	50	46.6	93	70-130	
trans-1,2-Dichloroethene	ug/L	50	41.8	84	70-130	
Trichloroethene	ug/L	50	46.3	93	70-130	
Vinyl chloride	ug/L	50	37.7	75	69-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			95	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 908516 908517

Parameter	92145319002		MS		MSD							
	Units	Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	50.1	54.1	100	108	70-166	8	30	
Toluene	ug/L	ND	50	50	53.1	52.8	106	106	70-155	1	30	
Trichloroethene	ug/L	ND	50	50	53.8	54.1	108	108	69-151	1	30	
1,2-Dichloroethane-d4 (S)	%						103	101	70-130			
4-Bromofluorobenzene (S)	%						97	97	70-130			
Dibromofluoromethane (S)	%						101	102	70-130			
Toluene-d8 (S)	%						99	98	70-130			

Date: 01/23/2013 04:59 PM

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CTS of Asheville 6252120006
 Pace Project No.: 92145319

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte



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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS of Asheville 6252120006
Pace Project No.: 92145319

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92145319001	TB-03-01	EPA 8260	MSV/21768		
92145319002	PW-146A-01	EPA 8260	MSV/21768		
92145319003	PW-146B-01	EPA 8260	MSV/21768		
92145319004	PW-046-01	EPA 8260	MSV/21768		
92145319005	PW-047A-01	EPA 8260	MSV/21768		
92145319006	PW-047B-01	EPA 8260	MSV/21768		

RECEIVED
REC 2/5/13
(full data package)

Total Pages: 155



AMEC

Client Ref.: CTS OF ASHEVILLE 6252120006

Pace-Charlotte Project No. 92145451

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January 23, 2013

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on January 18, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures



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CERTIFICATIONS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92145451001	TB-04-01	Water	01/18/13 00:00	01/18/13 16:58
92145451002	PW-121A-01	Water	01/18/13 15:25	01/18/13 16:58
92145451003	PW-121B-01	Water	01/18/13 15:30	01/18/13 16:58
92145451004	PW-132-01	Water	01/18/13 14:55	01/18/13 16:58
92145451005	PW-136A-01	Water	01/18/13 16:05	01/18/13 16:58
92145451006	PW-136B-01	Water	01/18/13 16:10	01/18/13 16:58

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SAMPLE ANALYTE COUNT

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92145451001	TB-04-01	EPA 8260	CAH	12	PASI-C
92145451002	PW-121A-01	EPA 8260	CAH	12	PASI-C
92145451003	PW-121B-01	EPA 8260	CAH	12	PASI-C
92145451004	PW-132-01	EPA 8260	CAH	12	PASI-C
92145451005	PW-136A-01	EPA 8260	CAH	12	PASI-C
92145451006	PW-136B-01	EPA 8260	CAH	12	PASI-C

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Method: EPA 8260
Description: 8260 MSV Low Level
Client: AMEC, Asheville
Date: January 23, 2013

General Information:

6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Sample: TB-04-01	Lab ID: 92145451001	Collected: 01/18/13 00:00	Received: 01/18/13 16:58	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/22/13 16:29	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/22/13 16:29	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/22/13 16:29	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/22/13 16:29	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/22/13 16:29	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/22/13 16:29	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/22/13 16:29	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/22/13 16:29	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	89 %		70-130		1		01/22/13 16:29	460-00-4	
Dibromofluoromethane (S)	105 %		70-130		1		01/22/13 16:29	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		70-130		1		01/22/13 16:29	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/22/13 16:29	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Sample: PW-121A-01	Lab ID: 92145451002	Collected: 01/18/13 15:25	Received: 01/18/13 16:58	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/22/13 17:06	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/22/13 17:06	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/22/13 17:06	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/22/13 17:06	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/22/13 17:06	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/22/13 17:06	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/22/13 17:06	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/22/13 17:06	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	88 %		70-130		1		01/22/13 17:06	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/22/13 17:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		01/22/13 17:06	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/22/13 17:06	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Sample: PW-121B-01	Lab ID: 92145451003	Collected: 01/18/13 15:30	Received: 01/18/13 16:58	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/22/13 16:48	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/22/13 16:48	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/22/13 16:48	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/22/13 16:48	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/22/13 16:48	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/22/13 16:48	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/22/13 16:48	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/22/13 16:48	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	90 %		70-130		1		01/22/13 16:48	460-00-4	
Dibromofluoromethane (S)	105 %		70-130		1		01/22/13 16:48	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		70-130		1		01/22/13 16:48	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/22/13 16:48	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Sample: PW-132-01 Lab ID: 92145451004 Collected: 01/18/13 14:55 Received: 01/18/13 16:58 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/22/13 17:24	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/22/13 17:24	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/22/13 17:24	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/22/13 17:24	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/22/13 17:24	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/22/13 17:24	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/22/13 17:24	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/22/13 17:24	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	88 %		70-130		1		01/22/13 17:24	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/22/13 17:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		70-130		1		01/22/13 17:24	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/22/13 17:24	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Sample: PW-136A-01	Lab ID: 92145451005	Collected: 01/18/13 16:05	Received: 01/18/13 16:58	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/22/13 17:43	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/22/13 17:43	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/22/13 17:43	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/22/13 17:43	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/22/13 17:43	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/22/13 17:43	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/22/13 17:43	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/22/13 17:43	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	89 %		70-130		1		01/22/13 17:43	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		01/22/13 17:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	109 %		70-130		1		01/22/13 17:43	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/22/13 17:43	2037-26-5	



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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Sample: PW-136B-01 Lab ID: 92145451006 Collected: 01/18/13 16:10 Received: 01/18/13 16:58 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/22/13 18:01	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/22/13 18:01	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/22/13 18:01	156-60-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/22/13 18:01	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/22/13 18:01	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/22/13 18:01	71-55-6	
Trichloroethene	ND ug/L		1.0	0.47	1		01/22/13 18:01	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/22/13 18:01	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	85 %		70-130		1		01/22/13 18:01	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		1		01/22/13 18:01	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		70-130		1		01/22/13 18:01	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		01/22/13 18:01	2037-26-5	

QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92145451

QC Batch:	MSV/21783	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92145451001, 92145451002, 92145451003, 92145451004, 92145451005, 92145451006		

METHOD BLANK: 909091 Matrix: Water

Associated Lab Samples: 92145451001, 92145451002, 92145451003, 92145451004, 92145451005, 92145451006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/22/13 15:52	
1,1-Dichloroethene	ug/L	ND	1.0	01/22/13 15:52	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/22/13 15:52	
Tetrachloroethene	ug/L	ND	1.0	01/22/13 15:52	
Toluene	ug/L	ND	1.0	01/22/13 15:52	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/22/13 15:52	
Trichloroethene	ug/L	ND	1.0	01/22/13 15:52	
Vinyl chloride	ug/L	ND	1.0	01/22/13 15:52	
1,2-Dichloroethane-d4 (S)	%	103	70-130	01/22/13 15:52	
4-Bromofluorobenzene (S)	%	88	70-130	01/22/13 15:52	
Dibromofluoromethane (S)	%	104	70-130	01/22/13 15:52	
Toluene-d8 (S)	%	100	70-130	01/22/13 15:52	

LABORATORY CONTROL SAMPLE: 909092

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	53.8	108	70-130	
1,1-Dichloroethene	ug/L	50	49.7	99	70-132	
cis-1,2-Dichloroethene	ug/L	50	49.9	100	70-131	
Tetrachloroethene	ug/L	50	53.7	107	70-130	
Toluene	ug/L	50	52.2	104	70-130	
trans-1,2-Dichloroethene	ug/L	50	49.7	99	70-130	
Trichloroethene	ug/L	50	51.9	104	70-130	
Vinyl chloride	ug/L	50	52.0	104	69-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 909093 909094

Parameter	Units	Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
1,1-Dichloroethene	ug/L	ND	50	50	43.0	50.7	86	101	70-166	16	30	
Toluene	ug/L	ND	50	50	42.6	51.2	85	102	70-155	18	30	
Trichloroethene	ug/L	ND	50	50	42.9	51.0	86	102	69-151	17	30	
1,2-Dichloroethane-d4 (S)	%						105	104	70-130			
4-Bromofluorobenzene (S)	%						89	90	70-130			
Dibromofluoromethane (S)	%						103	102	70-130			
Toluene-d8 (S)	%						97	97	70-130			

Date: 01/23/2013 05:02 PM

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QUALIFIERS

Project: CTS OF ASHEVILLE 6252120006
 Pace Project No.: 92145451

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92145451

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92145451001	TB-04-01	EPA 8260	MSV/21783		
92145451002	PW-121A-01	EPA 8260	MSV/21783		
92145451003	PW-121B-01	EPA 8260	MSV/21783		
92145451004	PW-132-01	EPA 8260	MSV/21783		
92145451005	PW-136A-01	EPA 8260	MSV/21783		
92145451006	PW-136B-01	EPA 8260	MSV/21783		

APPENDIX D

DATA VALIDATION REPORT

DATA VALIDATION REPORT
January 2013 Water Supply Monitoring
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina

Introduction

Water supply samples were collected at the CTS of Asheville, Inc (Site) in Asheville, North Carolina in January 2013 and submitted for off-site laboratory analysis. Samples were analyzed by Pace Analytical Services, Inc. located in Charlotte, North Carolina. Results were reported in the following Sample Delivery Groups (SDGs): 92144981, 92145197, 92145319 and 92145451.

A listing of samples included in this Data Validation Report is presented in Table D.1. The project quality control limits are included in Table D.2. A summary of the analytical results is presented in Table D.3. Samples were analyzed by the following method:

- Volatile organic compounds (VOCs) by USEPA Method 8260 (Site-specific list)

Data validation was completed based on procedures in the USEPA Region 4 Data Validation Standard Operating Procedures (SOP) for Organic Analysis (USEPA, 2008), Method 8260, and the CTS of Asheville Quality Assurance Project Plan (QAPP; AMEC, 2012). The validation included the following evaluations:

- Lab report narrative
- Sample collection and chain of custody
- Data package completeness
- Holding times
- Instrument tuning
- Initial and continuing calibrations
- QC blanks
- System monitoring compound recovery
- Laboratory control samples
- Matrix spike/matrix spike duplicates
- Field duplicates
- Internal standard response and retention time
- Data transcription
- Raw data and calculation checks
- Electronic data reporting
- Data qualification

The following laboratory or data validation qualifiers are used in the final data presentation.

U = target analyte is not detected at the reported detection limit
J = concentration is estimated

Results are interpreted to be usable as reported by the laboratory unless discussed in the following sections.

Data Validation Results

No quality control issues were identified during the data validation. Results are interpreted to be usable as reported by the laboratory.

A subset of project USEPA 8260 compounds (1,1,1-trichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethene, toluene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride) was reported in the data set.

Reference:

AMEC, 2012. "Quality Assurance Project Plan for Water Supply Monitoring"; February 24, 2012.

USEPA Region 4, 2008. "Data Validation Standard Operating Procedures for Organic Analysis" Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Revision 3.1.

Data Validator: Mike Washburn

Date: 2/12/2013

Reviewed by Chris Ricardi, NRCC-EAC

Date: 2/28/2013



TABLE D.1
Data Validation Report: Sample Summary (January 2013)
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-12-0006

SDG	Sample ID	Sample Date	EPA 8260
92144981	FD-01-01	1/14/2013	8
92144981	FD-02-01	1/15/2013	8
92144981	PW-014A-01	1/15/2013	8
92144981	PW-014B-01	1/15/2013	8
92144981	PW-026A-01	1/15/2013	8
92144981	PW-026B-01	1/15/2013	8
92144981	PW-063A-01	1/15/2013	8
92144981	PW-063B-01	1/15/2013	8
92144981	PW-091A-01	1/14/2013	8
92144981	PW-091B-01	1/14/2013	8
92144981	PW-133-01	1/15/2013	8
92144981	PW-143A-01	1/15/2013	8
92144981	PW-143B-01	1/15/2013	8
92144981	PW-151A-01	1/14/2013	8
92144981	PW-151B-01	1/14/2013	8
92144981	PW-156A-01	1/15/2013	8
92144981	PW-156B-01	1/15/2013	8
92144981	TB-01-01	1/14/2013	8
92145197	FD-03-01	1/16/2013	8
92145197	PW-039A-01	1/16/2013	8
92145197	PW-039B-01	1/16/2013	8
92145197	PW-058A-01	1/16/2013	8
92145197	PW-058B-01	1/16/2013	8
92145197	PW-060A-01	1/16/2013	8
92145197	PW-060B-01	1/16/2013	8
92145197	PW-101A-01	1/16/2013	8
92145197	PW-101B-01	1/16/2013	8
92145197	PW-103A-01	1/16/2013	8
92145197	PW-103B-01	1/16/2013	8
92145197	PW-149A-01	1/16/2013	8
92145197	PW-149B-01	1/16/2013	8
92145197	PW-157A-01	1/16/2013	8
92145197	PW-157B-01	1/16/2013	8
92145197	TB-02-01	1/16/2013	8
92145319	PW-046-01	1/17/2013	8
92145319	PW-047A-01	1/17/2013	8
92145319	PW-047B-01	1/17/2013	8
92145319	PW-146A-01	1/17/2013	8
92145319	PW-146B-01	1/17/2013	8
92145319	TB-03-01	1/17/2013	8
92145451	PW-121A-01	1/18/2013	8
92145451	PW-121B-01	1/18/2013	8
92145451	PW-132-01	1/18/2013	8
92145451	PW-136A-01	1/18/2013	8
92145451	PW-136B-01	1/18/2013	8
92145451	TB-04-01	1/18/2013	8

Note:

1. Number listed under method indicates the number of target analytes reported.

Prepared By: BCG 2/8/13

Checked By: MJW 2/12/13

TABLE D.2
Data Validation Report: Quality Control Limits
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
AMEC Project 6252-12-0006

Parameter	QC Test	%R	RPD
VOC	Surrogate	70-130	
	LCS/LCSD	70-130	30
	MS/MSD	70-130	30
	Field Duplicate		30

Notes:

LCS = laboratory control sample

LCSD = laboratory control sample duplicate

MS = matrix spike

MSD = matrix spike duplicate

%R = percent recovery

RPD = relative percent difference

TABLE D.3
Data Validation Report: Final Results Summary (January 2013)
CTS of Asheville, Inc Superfund Site
Asheville, North, Carolina
AMEC Project 6252-12-0006

Method	Parameter Name	Units	Location	MGPW014		MGPW014		MGPW026		MGPW026		MGPW039		MGPW039	
			Date Sampled	Result	Qual										
			COC Sample	PW-014A-01		PW-014B-01		PW-026A-01		PW-026B-01		PW-039A-01		PW-039B-01	
EPA 8260	1,1,1-Trichloroethane	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	

Note:

U = not detected above the laboratory reporting limit.

TABLE D.3
Data Validation Report: Final Results Summary (January 2013)
CTS of Asheville, Inc Superfund Site
Asheville, North, Carolina
AMEC Project 6252-12-0006

Method	Parameter Name	Units	Location	MGPW046	MGPW047	MGPW047	MGPW058	MGPW058	MGPW060
			Date Sampled	1/17/13	1/17/13	1/17/13	1/16/13	1/16/13	1/16/13
		COC Sample	PW-046-01	PW-047A-01	PW-047B-01	PW-058A-01	PW-058B-01	PW-060B-01	
EPA 8260	1,1,1-Trichloroethane	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	1,1-Dichloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	cis-1,2-Dichloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	Tetrachloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	Toluene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	trans-1,2-Dichloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	Trichloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	Vinyl chloride	UG/L		1 U	1 U	1 U	1 U	1 U	1 U

Note:

U = not detected above the laboratory reporting limit.

TABLE D.3
Data Validation Report: Final Results Summary (January 2013)
CTS of Asheville, Inc Superfund Site
Asheville, North, Carolina
AMEC Project 6252-12-0006

Method	Parameter Name	Units	Location	MGPW060	MGPW063	MGPW063	MGPW063	MGPW091	MGPW091	
			Date Sampled	1/16/13	1/15/13	1/15/13	1/15/13	1/14/13	1/14/13	
		COC Sample	PW-060A-01	PW-063A-01	FD-02-01	PW-063B-01	PW-091A-01	PW-091B-01		
			Result	Qual	Result	Qual	Result	Qual	Result	Qual
EPA 8260	1,1,1-Trichloroethane	UG/L		1 U		1 U		1 U		1 U
EPA 8260	1,1-Dichloroethene	UG/L		1 U		1 U		1 U		1 U
EPA 8260	cis-1,2-Dichloroethene	UG/L		1 U		1 U		1 U		1 U
EPA 8260	Tetrachloroethene	UG/L		1 U		1 U		1 U		1 U
EPA 8260	Toluene	UG/L		1 U		1 U		1 U		1 U
EPA 8260	trans-1,2-Dichloroethene	UG/L		1 U		1 U		1 U		1 U
EPA 8260	Trichloroethene	UG/L		1 U		1 U		1 U		1 U
EPA 8260	Vinyl chloride	UG/L		1 U		1 U		1 U		1 U

Note:

U = not detected above the laboratory reporting limit.

TABLE D.3
Data Validation Report: Final Results Summary (January 2013)
CTS of Asheville, Inc Superfund Site
Asheville, North, Carolina
AMEC Project 6252-12-0006

Method	Parameter Name	Units	Location	MGPW101		MGPW101		MGPW101		MGPW103		MGPW103		MGPW121			
			Date Sampled	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual		
		COC Sample	FD-03-01			PW-101A-01		PW-101B-01		PW-103A-01		PW-103B-01		PW-121A-01			
EPA 8260	1,1,1-Trichloroethane	UG/L		1	U		1	U		1	U		1	U		1	U
EPA 8260	1,1-Dichloroethene	UG/L		1	U		1	U		1	U		1	U		1	U
EPA 8260	cis-1,2-Dichloroethene	UG/L		1	U		1	U		1	U		1	U		1	U
EPA 8260	Tetrachloroethene	UG/L		1	U		1	U		1	U		1	U		1	U
EPA 8260	Toluene	UG/L		1	U		1	U		1	U		1	U		1	U
EPA 8260	trans-1,2-Dichloroethene	UG/L		1	U		1	U		1	U		1	U		1	U
EPA 8260	Trichloroethene	UG/L		1	U		1	U		1	U		1	U		1	U
EPA 8260	Vinyl chloride	UG/L		1	U		1	U		1	U		1	U		1	U

Note:

U = not detected above the laboratory reporting limit.

TABLE D.3
Data Validation Report: Final Results Summary (January 2013)
CTS of Asheville, Inc Superfund Site
Asheville, North, Carolina
AMEC Project 6252-12-0006

Method	Parameter Name	Units	Location	MGPW121	MGPW132	MGPW133	MGPW136	MGPW136	MGPW143
			Date Sampled	1/18/13	1/18/13	1/15/13	1/18/13	1/18/13	PW-143A-01
		COC Sample	PW-121B-01	PW-132-01	PW-133-01	PW-136A-01	PW-136B-01		
EPA 8260	1,1,1-Trichloroethane	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	1,1-Dichloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	cis-1,2-Dichloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	Tetrachloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	Toluene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	trans-1,2-Dichloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	Trichloroethene	UG/L		1 U	1 U	1 U	1 U	1 U	1 U
EPA 8260	Vinyl chloride	UG/L		1 U	1 U	1 U	1 U	1 U	1 U

Note:

U = not detected above the laboratory reporting limit.

TABLE D.3
Data Validation Report: Final Results Summary (January 2013)
CTS of Asheville, Inc Superfund Site
Asheville, North, Carolina
AMEC Project 6252-12-0006

Method	Parameter Name	Units	Location	MGPW143		MGPW146		MGPW146		MGPW149		MGPW149		MGPW151	
			Date Sampled	Result	Qual	Result	Qual								
			COC Sample	PW-143B-01		PW-146A-01		PW-146B-01		PW-149A-01		PW-149B-01		FD-01-01	
EPA 8260	1,1,1-Trichloroethane	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	

Note:

U = not detected above the laboratory reporting limit.

TABLE D.3
Data Validation Report: Final Results Summary (January 2013)
CTS of Asheville, Inc Superfund Site
Asheville, North, Carolina
AMEC Project 6252-12-0006

Method	Parameter Name	Units	Location	MGPW151		MGPW151		MGPW156		MGPW156		MGPW157		MGPW157	
			Date Sampled	Result	Qual										
			COC Sample	PW-151A-01		PW-151B-01		PW-156A-01		PW-156B-01		PW-157A-01		PW-157B-01	
EPA 8260	1,1,1-Trichloroethane	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	1,1-Dichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	cis-1,2-Dichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Tetrachloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Toluene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	trans-1,2-Dichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Trichloroethene	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	
EPA 8260	Vinyl chloride	UG/L		1 U		1 U		1 U		1 U		1 U		1 U	

Note:

U = not detected above the laboratory reporting limit.

TABLE D.3
Data Validation Report: Final Results Summary (January 2013)
CTS of Asheville, Inc Superfund Site
Asheville, North, Carolina
AMEC Project 6252-12-0006

Method	Parameter Name	Units	Location	QC		QC		QC		QC		
			Date Sampled	1/14/13	Result	Qual	1/16/13	Result	Qual	1/17/13	Result	
			COC Sample	TB-01-01			TB-02-01			TB-03-01		
EPA 8260	1,1,1-Trichloroethane	UG/L			1	U		1	U		1	U
EPA 8260	1,1-Dichloroethene	UG/L			1	U		1	U		1	U
EPA 8260	cis-1,2-Dichloroethene	UG/L			1	U		1	U		1	U
EPA 8260	Tetrachloroethene	UG/L			1	U		1	U		1	U
EPA 8260	Toluene	UG/L			1	U		1	U		1	U
EPA 8260	trans-1,2-Dichloroethene	UG/L			1	U		1	U		1	U
EPA 8260	Trichloroethene	UG/L			1	U		1	U		1	U
EPA 8260	Vinyl chloride	UG/L			1	U		1	U		1	U

Note:

U = not detected above the laboratory reporting limit.

Prepared By: BCG 2/11/13

Checked By: MJW 2/12/13